
CITY OF COTABATO
OFFICIAL SEAL
BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO
2019
Funded by
European Union
Humanitarian Aid
MOVE UP
MOVING URBAN POOR
COMMUNITIES
TOWARD RESILIENCE
PLAN
ACTION AGAINST HUNGER
care
ACCORD
PLAN
INTERNATIONAL
COTABATO CITY
CONTINGENCY PLAN for
EARTHQUAKE
and TSUNAMI
2023-2026

MESSAGE FROM THE LOCAL CHIEF EXECUTIVE

Greetings and Masayang Cotabato!

Recognizing the seismic risks, we face; I am proud to present the Cotabato City Contingency Plan for Earthquakes. This plan is a crucial step in ensuring our city's preparedness for potential seismic events.

Allocation and management of resources, and a meticulous evaluation of our city's infrastructure. These measures are designed not only to ensure immediate and effective response during emergencies but also to reinforce the long-term resilience of our city.

An integral part of this plan is your involvement. I strongly encourage each resident to actively participate and become familiar with the plan's protocols. Engaging in our regular disaster preparedness drills and educational programs will equip you with the knowledge and skills necessary for responding to earthquakes. Your awareness and readiness are crucial in our collective safety and resilience.

Furthermore, the Cotabato City Disaster Risk Reduction Management Office (CDRRMO) and other key departments in the City Government are undergoing continuous rigorous training, preparing them to act decisively and efficiently in times of need. This effort is bolstered by our collaboration with a network of agencies at local, regional, and national levels, ensuring a well-coordinated and comprehensive approach to disaster management.

Earthquake preparedness is not a finite task but a continuous commitment to the well-being and safety of our entire community. I call upon each one of you to be an active part of this crucial endeavor. Your contributions, big or small, play a significant role in strengthening our collective preparedness.

Together, with unwavering spirit and shared responsibility, we stand resilient, ready to face any seismic challenges that may come our way.

MOHAMMAD ALI "BRUCE" DELA CRUZ MATABALAO
Mayor Para sa Lahat

TABLE OF CONTENTS

Definition of Terms 6
Rationale 12
Chapter 1: Background 14
- Introduction 14
- City Profile 18
- Hazard, Vulnerability, and Risk Assessment 18
- Hazard Identification 27
- Risk Rating: Probability and Impact 30
- Hazard to Plan for: Earthquake 32
- Scenario Generation for Natural Hazard: Earthquake 34
- Affected Population 39
- Breakdown of Affected Population 41

Chapter 2: General Policies, Goals, and Objectives 43
- Legal Basis 43
- Other References 44
- Local Ordinances and Resolutions 45
- General Policies 45
- Goal 47
- General Objectives 47

Chapter 3: Response Arrangements 48
- Response Clusters 49
- Summary of Response Cluster 50

Detailed Implementation Plan:
- Food and Non-Food Items (FNFI) Cluster 51
- Health Cluster 56
- IDP Protection and CCCM Cluster 62
- Logistics Cluster 68
- Emergency Telecommunications (ET) Cluster 74
- Education Cluster 78
- Search, Rescue, and Retrieval (SRR) Cluster 83
- Management of the Dead and Missing (MDM) Cluster 89
- Law and Order Cluster 94
- Shelter Cluster 99
- Early Recovery Cluster 103
- Resource Gap Summary 110
- Coordination, Command, and Control 111

Chapter 4: Activation, Deactivation, and Non-Activation 119
Annexes 123

LIST OF TABLES

Table 1. Barangays affected by flood 19
Table 2. Significant earthquakes caused havoc in Cotabato City. 25
Table 3. Hazard Identification Matrix 27
Table 4. Probability Rating Scale 30
Table 5. Impact Rating Scale 30
Table 6. Anatomy of Earthquakes 32
Table 7. Scenario Generation for Earthquakes 34
Table 8. Affected Population Projection 39
Table 9. Breakdown of Projected Affected Population 41
Table 10. Response Clusters 49
Table 11. Summary of Cluster Identification 50
Table 12. Response Activities for Food and Non-Food Items Cluster 53
Table 13. Resource Inventory for Food and Non-Food Items Cluster 54
Table 14. Resource Projection for Food and Non-Food Items Cluster 55
Table 15. Response Activities for Health Cluster 58
Table 16. Resource Inventory for Health Cluster 59
Table 17. Resource Projection for Health Cluster 61
Table 18 Response Activities for IDP Protection and CCCM Cluster 65
Table 19. Resource Inventory for IDP Protection and CCCM Cluster 66
Table 20. Resource Projection for IDP Protection and CCCM Cluster 67
Table 21. Response Activities for Logistics Cluster 71
Table 22. Resource Inventory for Logistics Cluster 72
Table 23. Resource Projection for Logistics Cluster 73
Table 24. Response Activities for Emergency Telecommunications Cluster 76
Table 25. Resource Inventory for Emergency Telecommunications Cluster 77
Table 26. Resource Projection for Emergency Telecommunications Cluster 77
Table 27. Response Activities for Education Cluster 80
Table 28. Resource Inventory for Education Cluster 81
Table 29. Resource Projection for Education Cluster 82
Table 30. Response Activities for Search, Rescue, and Retrieval Cluster 85
Table 31. Resource Inventory for Search, Rescue, and Retrieval Cluster 86
Table 32. Resource Projection for Search, Rescue, and Retrieval Cluster 88
Table 33. Response Activities for Management of the Dead and Missing Cluster 91
Table 34. Resource Inventory for Management of the Dead and Missing Cluster 92
Table 35. Resource Projection for Management of the Dead and Missing Cluster 93
Table 36. Response Activities for Law-and-Order Cluster 96
Table 37. Resource Inventory for Law-and-Order Cluster 97
Table 38. Resource Projection for Law-and-Order Cluster 98
Table 39. Response Activities for Shelter Cluster 101
Table 40. Resource Inventory for Shelter Cluster 102
Table 41. Resource Projection for Shelter Cluster 102
Table 42. Response Activities for Early Recovery Cluster (Cotabato Light) 105
Table 43. Response Activities for Early Recovery Cluster (MCWD) 106
Table 44. Response Activities for Early Recovery Cluster (City Government) 107
Table 45. Resource Inventory for Early Recovery Cluster 108
Table 46. Resource Projection for Early Recovery Cluster 109
Table 47. Resource Gap Summary 110
Table 48. EOC Roles and Responsibilities 112
Table 49. ICS Roles and Responsibilities 113
Table 50. Emergency Operation Center Contact Information 117
Table 51. Incident Command System Contact Information 118

LIST OF FIGURES

Figure 1. Nearest active fault line in Cotabato City 15
Figure 2. Landslide Susceptibility Map 16
Figure 3. Tsunami susceptibility map 17
Figure 4. Organizational Structure of EOC 112
Figure 5. Organizational Structure of ICS 113
Figure 6. Interoperability 116
Figure 7. Activation and Deactivation Flowchart 121

DEFINITION OF TERMS

Affected Population: a group of people who (1) live in a disaster-affected area and have sustained direct disaster impacts (e.g., casualties and lost sources of livelihoods); (2) live within the disaster-affected area and have sustained indirect disaster impacts (e.g., disruption of basic services); or (3) live outside the disaster-affected area and have sustained secondary disaster impacts (e.g., an increase in market costs).

Capacity: a combination of all strengths and resources available within a community, society, or organization that can reduce the level of risk or effects of a disaster. Capacity may include infrastructure and physical means, institutions, and societal coping abilities, as well as human knowledge, skills, and collective attributes such as social relationships, leadership, and management. Capacity may also be described as capability.

Casualty: a person who is injured, killed, or gone missing because of an accident, mishap, or disaster.

Civil Society Organizations (CSOs): organized group of individuals, to include non-government organizations, trade unions, faith-based organizations, indigenous people's movements, and foundations, working together for a common goal.

Coordination: system for gathering information, making decisions, and recording action that must be clear and known to all.

Command and Control: exercise of authority and direction by the incident commander over resources checked in to accomplish the objectives.

Cluster: a group of agencies that gather to work together towards common objectives within a particular sector or area of concern in emergency response. The NDRP enumerates the clusters at the national level, the lead and member agencies, as well as their duties and responsibilities during emergencies.

Cluster Approach: a coordination system of the NDRRMC that aims to ensure a more coherent and effective response by mobilizing groups of agencies, organizations, and non-government organizations to respond in a strategic manner across all key sectors or areas of activity, each sector having a clearly designated lead, in support of existing government coordination structures and emergency response mechanisms.

Contingency Plan: a scenario-based plan for a specific and projected natural and/or human-induced hazard. It aims to address the impacts of the hazard on people, properties, and the environment and/or to prevent the occurrence of emerging threats through the arrangement of timely, effective, appropriate, and well-coordinated responses as well as the efficient management of resources.

Contingency Planning: a management process that analyzes specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective, and appropriate responses to such events and situations.

Crisis: also known as an emergency, is a threatening condition that requires urgent action or response.

Crisis Management (CM): involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary, and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of crisis needs.

Crisis Management Committee (CMC): a governing body that undertakes CM activities and takes decisive actions to resolve a crisis or emergency. Its powers and functions are defined in the NCMCM 2012.

Disaster: a serious disruption of the functioning of a community or a society involving widespread human, material, economic, or environmental losses and impacts that exceeds the ability of the affected community or society to cope using its own resources. Disasters are often described because of the combination of exposure to a hazard, the conditions of vulnerability that are present, and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease, and other negative effects on human, physical, mental, and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption, and environmental degradation.

Disaster Impacts: immediate consequences of a disaster requiring an extraordinary response.

Disaster Risk: the potential disaster losses in lives, health status, livelihood, assets, and services that could occur to a particular community or a society over some specified future time or period.

Disaster Risk Reduction: the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including reduced exposures to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

Disaster Risk Reduction and Management (DRRM): the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities to lessen the adverse impacts of hazards and the possibility of disaster. Prospective disaster risk reduction and management refers to risk reduction and management activities that address and seek to avoid the development of new or increased disaster risks, especially if risk reduction policies are not put in place.

Disaster Risk Reduction and Management Council (DRRMC): an organized and authorized body of government agencies, to include civil society organizations and the private sector, mandated to undertake DRRM activities from the national to local levels. The composition, powers, and functions of the DRRMC are defined in RA 10121.

Early Warning Signs: observable or science-based information that will indicate the unfolding of an event or incident.

Emergency Indicators: quantifiable thresholds that signal whether a situation is under control and whether there is a need for urgent remedial action.

Emergency Operations Center (EOC): a facility mandated by RA 10121 to be established in every DRRMC that shall be operated and staffed on a twenty-four (24) hour basis for coordination work on DRRM.

Earthquake: a sudden and violent shaking of the ground, often caused by the movement of tectonic plates beneath the Earth's surface. This movement releases energy that creates seismic waves, leading to the ground shaking. Earthquakes can vary in magnitude, ranging from minor tremors that go unnoticed to major quakes capable of causing significant damage and loss of life. The epicenter, the point on the Earth's surface directly above the earthquake's origin, and the focus, the actual location where the earthquake begins within the Earth, are key concepts in understanding seismic events. Earthquakes can trigger secondary hazards like tsunamis, landslides, and aftershocks, making them a natural phenomenon with widespread geological implications. Scientists use seismology to study and monitor earthquakes, helping to mitigate their impact on communities and infrastructure.

Exposure: the degree to which the elements at risk are likely to experience hazard events of different magnitudes.

Goal: an observable and measurable result having one or more objectives to be achieved within a fixed timeframe.

Hazard: a dangerous phenomenon, substance, human activity, or condition that may cause loss of life, injury, or other health impacts; property damage; loss of livelihood and services; social and economic disruption; or environmental damage.

Human-Induced Hazard: a notable event caused by human actions leading to acts of terrorism, destabilization, criminal activities, industrial accidents, disruption of routine activities, and other related emergencies requiring swift intervention to contain the incident, minimize its impact, and restore normalcy.

Incident Command System (ICS): a standard, on-scene, all-hazard incident management concept that can be used by all DRRMC member agencies and response groups. Without interference from agency or jurisdictional boundaries, it enables its users to adopt an integrated organizational structure to meet the complexity and demands of a single or multiple incidents.

Incident Management Team (IMT): a team composed of command staff and general staff who will take the lead in ICS implementation.

Intensity: refers to the amount of ground shaking and its impact at a specific location.

Magnitude: serves as a numerical gauge of the size of an earthquake, reflecting the energy unleashed at its epicenter.

Mitigation: the lessening or limitation of the adverse impacts of hazards and related disasters.

Natural Hazard: a natural process or phenomenon that may cause loss of life, injury, or other health impacts; property damage; loss of livelihood and services; social and economic disruption; or environmental damage.

Need: a motivating force that compels action for its satisfaction, ranges from basic survival needs satisfied by necessities to cultural, intellectual, and social needs.

New Normal: characterized by the increasing frequency, magnitude, and scope of disasters, as well as the blurring of division between disasters caused by natural and human-induced hazards.

Objective: an implementation step to attain identified goals. It is specific, measurable, has a defined completion date, and outlines the "who, what, when, where, and how" of reaching the goals.

Pre-Disaster Risk Assessment - Actions, Programs, and Protocols (PDRA-APP): a process to evaluate a hazard's level of risk given the degree of exposure and vulnerability in a specific area. PDRA-APP presents the possible impacts on the populace and forms the basis for determining the appropriate level of response actions from the national-level government agencies down to the local government units (LGUs). It is a hazard-specific, area-focused, and time-bound method of assessment.

Post-Disaster Needs Assessment (PDNA): a multi-sectoral and multidisciplinary structured approach for assessing disaster impacts and prioritizing recovery and reconstruction needs. It is undertaken by the government agencies also in collaboration with international development partners and the private sector.

Probability: frequency of occurrence or the return period of losses associated with hazardous events.

Rapid Damage Assessment and Needs Analysis (RDANA): a disaster response tool that is used immediately in the early emergency phase to determine the extent of impacts and assess the priority needs of the communities.

Resources: machineries, manpower, methodology, materials, and monetary assets that can be drawn on by an organization to function effectively.

Risk: the combination of the probability of an event and its negative consequences.

Risk Assessment: a methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods, and the environment on which they depend.

Root Causes: the underlying natural or human-induced sources or origins of the hazard.

Sector: a distinct and large subdivision defined based on some common factors.

State of Calamity: a condition involving mass casualties and/or major damage to property, disruption of means of livelihood, roads, and the normal way of life of people in the affected areas because of the occurrence of a natural or human-induced hazard.

Threat: an indication of something undesirable coming; a person or thing as a likely cause of harm; refers to people, phenomena, situations, and trends in the environment that can adversely affect the welfare and well-being of the people.

Triggering Factors: factors that could cause the unfolding of an event.

Tsunami: triggered by an earthquake, is a series of ocean waves with long wavelengths and high energy. It occurs when there is a sudden displacement of water, which frequently results from the vertical movement of the seafloor during an undersea earthquake.

Tectonic Tsunamis: Tectonic earthquakes are the most common type and are associated with the movement of tectonic plates beneath the Earth's surface. Tectonic earthquakes occur when stress builds up along faults due to the movement of tectonic plates. When the stress overcomes the frictional resistance holding the rocks together, it results in the sudden release of energy in the form of seismic waves.

Non-Tectonic Tsunamis: also known as intraplate earthquakes, occur within a tectonic plate, away from plate boundaries. While less common than tectonic earthquakes, they can still be significant in terms of their impact. The causes of non-tectonic earthquakes are diverse and can include factors such as volcanic activity, isostatic rebound (adjustment of the Earth's crust following glaciation), and human-induced activities like reservoir-induced seismicity (due to the filling of large reservoirs behind dams) or mining-induced seismicity.

Vulnerability: the characteristics and circumstances of a community, system, or asset that make it susceptible to the damaging effects of a hazard. Vulnerability may arise from various physical, social, economic, and environmental factors such as poor design and construction of buildings, inadequate protection of assets, a lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management.

RATIONALE

The Philippines, situated along the Pacific Ring of Fire and the Typhoon Belt, is prone to natural hazards such as typhoons, earthquakes, volcanic eruptions, and tsunamis. Furthermore, human-induced hazards such as crimes, terrorism, and bombing also threaten the lives of communities.

Given our disaster risk profile, Republic Act (RA) 10121, otherwise known as the "Philippine Disaster Risk Reduction and Management Act of 2010," was enacted on 27 May 2010. Prior to the enactment of RA 10121, government actions relative to disaster management had been largely concentrated on the response phase, where most of the resources were devoted to the needs of the affected population in the aftermath of a disaster. Now, the new law paved the way for the institutionalization of the proactive Disaster Risk Reduction and Management, or "DRRM" approach, which is the "systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster."

As provided for in RA 10121, one of the known DRRM mechanisms that we can use is Contingency Planning (CP). It is used to establish preparedness measures and arrange response priorities ahead of time prior to a certain disaster. CP works well together with other DRRM tools to help ensure the achievement of safer, adaptive, and disaster-resilient communities towards sustainable development.

CP is a scenario-based plan for a specific and projected natural and/or human-induced hazard. It aims to address the impacts of the hazard on people, properties, and the environment and/or to prevent the occurrence of emerging threats through the arrangement of timely, effective, appropriate, and well-coordinated responses as well as the efficient management of resources.

The UNHCR Handbook of Emergencies defines contingency planning as "a forward planning process, in a state of uncertainty, in which scenarios and objectives are agreed, managerial and technical actions defined, and potential response systems put in place in order to prevent or better respond to an emergency or critical situation."

The United Nations International Strategy for Disaster Reduction defines CP as a management process that analyzes disaster risks and establishes arrangements in advance to enable timely, effective, and appropriate responses.

RA 10121 describes contingency planning as "a management process that analyzes specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective, and appropriate responses to such events and situations."

With the growing significance of contingency planning, it has become applicable not only in DRRM but also in Crisis Management (CM), which "involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary, and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of crisis needs." As such, CP has been considered one of the operationalizing tools of the National Crisis Management Core Manual (NCMCM) of 2012, as provided for by Executive Order (EO) No. 82 series of 2012.

By organizing potential response structure, mechanisms, resources, and disaster risk reduction measures that are focused on a certain emergency event prior to its occurrence, a contingency plan assists in:

Generating commitment among parties involved to act in a coordinated manner before the emergency occurs; mobilizing effective actions and resources for emergency purpose; and designing a concrete and continuous plan until the emergency occurs, continuously updating such plans if the hazard is no longer threatening.

Contingency planning is also a mechanism to pull together resources and inter-agency coordination with the advent of early warning signals of an impending emergency. It means hoisting a flag of alert and seriously pulling all actors to focus their attention and energy so they can readily prepare for and respond to a potential emergency.

In this context, an effort has been made to integrate the contingency planning process for managing natural and human-induced hazards.

CHAPTER I: BACKGROUND

INTRODUCTION

Cotabato City has a total land area of 17,599 hectares, or 176 square kilometers, with a total population of 299,438 and 59,887 households based on the 2015 Census, creating a growth rate of 1.8%. By 2025, after only a decade, it is expected to increase its population to 357,918 (based on the 2010 population growth rate). The significant growth of the population from 259,153 in 2007 was due to the rising number of migrants from the adjacent provinces, especially from the war-torn areas of BARMM in general and Maguindanao Province in particular. Many of the so-called "Daytime" populace (persons who live in the nearby municipalities but work in the city or whose children are studying in the city) finally opted to make the place their permanent homes, if not their second residences. Cotabato City hosts the seat of government for the Bangsamoro Autonomous Region in Muslim Mindanao. Aside from the fact that there are many job opportunities in the city, it is also the center of trade and commerce in Central Mindanao.

The city is composed of thirty-seven (37) barangays, seven (7) of which are predominantly agricultural. Approximately 90 percent of the total residential area is found within the central part of the city's land mass, while the remaining 10 percent is sparsely situated along access roads in the seven (7) interior and rural barangays, including households who prefer to build their houses within their farm lots even if access is only by means of pathways or footbridges. There are housing communities of informal settlers within the deeply populated central part of the city, forming clusters along riverbanks, esteros, open spaces, road right of way(s), and on public and private lands. The city's land use classification states that there are thirty (30) urban barangays and seven (7) rural barangays.

Cotabato City lies in proximity to the Cotabato Trench and Mindanao Fault. The city is highly exposed to *earthquake* and *tsunami* impacts. The timeline of disaster events (see Table 1) reveals that the 1976 Moro Gulf Earthquake caused significant damage to the whole city.

In 1976, a great earthquake with an intensity of 7-8 magnitude hit the city and its adjacent municipalities and tremendously destroyed many buildings and houses. Accompanied by a 5-meter-high tsunami, it claimed hundreds of lives in Cotabato City alone and a total of 4,000–8,000 lives in the entire Central Mindanao. An earthquake of greater intensity and greater damage had also hit the city in 1871. Not a single building in Cotabato City stood, per the account of W.C. Repetti, American Seismological Society Bulletin, 1946. According to the PHIVOLCS, a large and long tectonic plate traverses Cotabato City from the south of Mindanao towards the Zamboanga peninsula. The threat of its possible re-occurrence therefore remains.

Figure 1.
Nearest active fault line in Cotabato City

Source: http://www.ndbcnews.com.ph/news/update-series-of-earthquakes-hit-kalamansig-sultan-kudarat-rekindle-killer-1976-intensity-7-9-quake

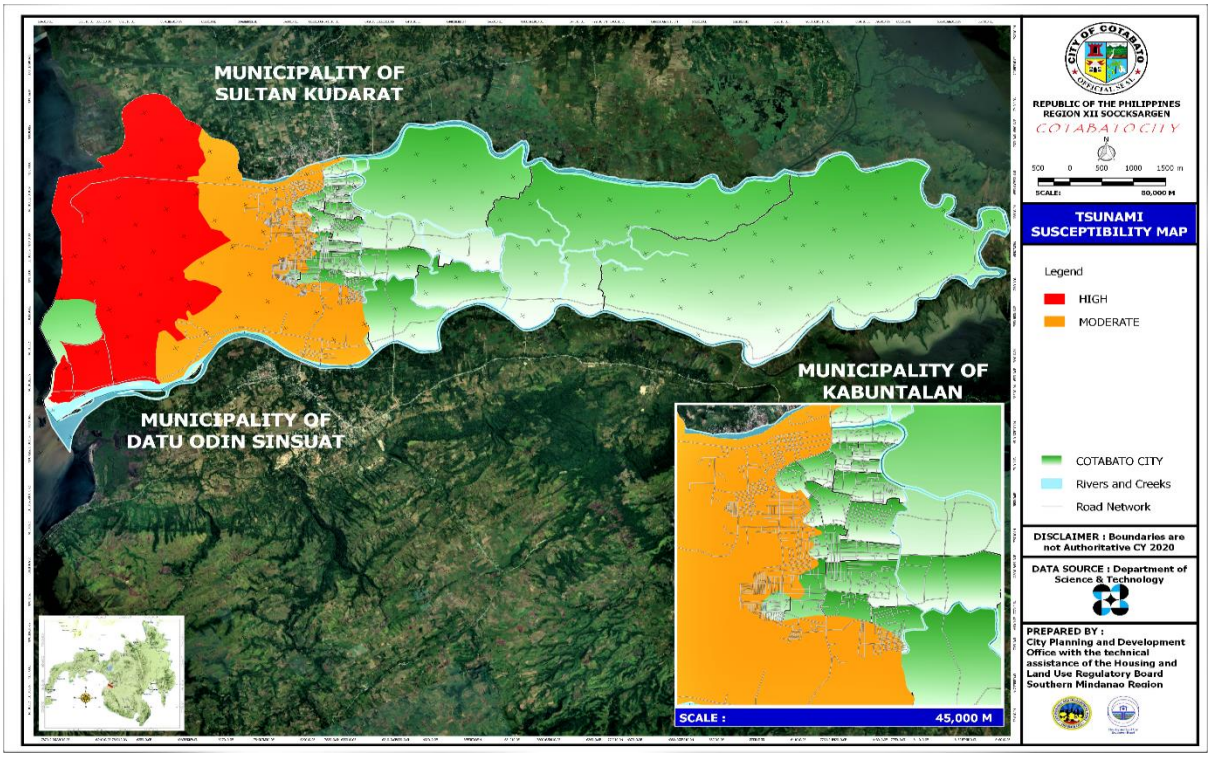
The South Barira Fault, mapped in the year 2020 and located near Cotabato City, represents an active fault line where tectonic plates converge. Its relevance lies in the possibilities for earthquakes that could impact the city. The implications of this active fault line are wide-reaching and critical for the city and its surrounding areas.

One of the foremost implications is the heightened earthquake risk. Being an active fault line, the South Barira Fault poses a continuous threat of seismic events varying in magnitude. These earthquakes have the potential to cause significant damage to infrastructure and homes and endanger the safety of the local population.

The structural integrity of buildings and roads is of great concern. Seismic activity originating from the fault line can induce ground shaking, leading to structural damage. This could disrupt the city's infrastructure, affecting transportation systems, homes, and essential facilities, potentially causing widespread disruption and danger.

The city is also generally susceptible to liquefaction, a phenomenon wherein the ground, especially near rivers, lakes, and coasts, behaves like liquid, like quicksand, due to very strong shaking. Liquefaction hazards can be mitigated by following the provisions of the National Building Code and the Structural Code of the Philippines.

Figure 2
Tsunami Susceptibility Map



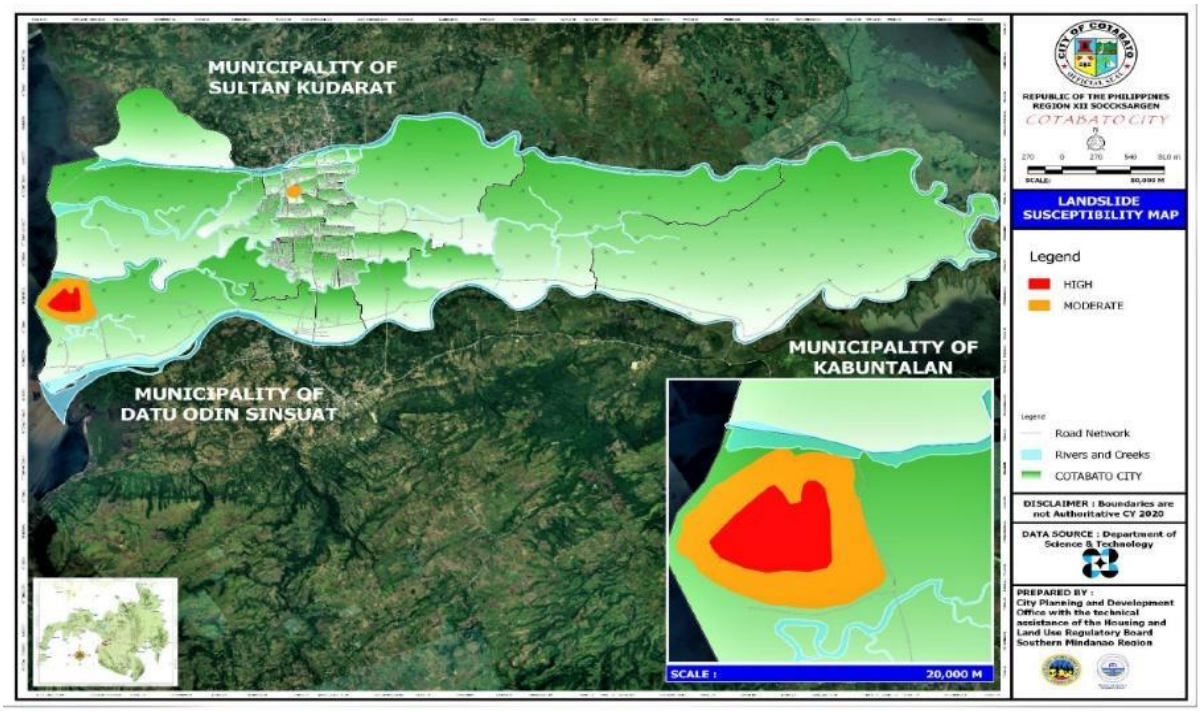
A tsunami, triggered by a strong-magnitude earthquake, poses a significant threat to coastal areas, as illustrated in the above Tsunami Susceptibility Map, which highlights the vulnerability of specific barangays in Cotabato City.

The susceptibility map provides crucial information about the potential impact of a tsunami approximately five (5) meters high or higher generated by seismic activity along the Cotabato Trench. According to the map, coastal barangays like Kalanganan Mother, Kalanganan 1, Kalanganan 2, adjacent barangays of Bagua Mother, Bagua 1, Bagua 2, and Bagua 3, Tamontaka Mother, Tamontaka 1, and parts of Rosary Heights Mother, Rosary Heights 10, Rosary Heights 11, and Rosary Heights 12 are vulnerable to a tsunami that would result from a strong earthquake coming from the Cotabato trench.

The implications of such a scenario are catastrophic for these coastal communities and nearby coastal barangays. A tsunami generated by the Cotabato Trench could unleash powerful waves that inundate these vulnerable areas, causing widespread destruction to infrastructure and homes and endangering the lives of thousands of residents.

Coastal barangays, due to their proximity to the shoreline, face the highest susceptibility to the impact of a tsunami. The rapid and forceful inundation of water could result in devastating consequences, including structural damage, displacement of populations, loss of life, and disruption of essential services and livelihoods.

Figure 3
Landslide susceptibility map



The Landslide Susceptibility Map above provides crucial insight into areas prone to landslides, particularly in the event of a strong-magnitude earthquake. Understanding the susceptibility of Timako Hill and PC Hill to landslides following a strong earthquake is critical for anticipating the potential risks and consequences for these areas.

While PC Hill is predominantly composed of solid rocks forming a protective structure within the city, it is important to acknowledge its potential vulnerability to landslides in the event of an earthquake.

In such scenarios, the stability of slopes in these locations might be compromised, leading to the rapid movement of rocks, soil, and debris downhill. Despite PC Hill's solid rock composition, there remains a possibility of landslides occurring, which could endanger commercial and residential areas along Sinsuat Avenue and adjacent parts of the hill.

Landslides have the capacity to cause severe damage to infrastructure, including commercial and residential properties, roads, and utilities, posing a direct threat to the safety of residents and commercial establishments near these hillsides.

CITY PROFILE

COTABATO CITY is situated in the northwest portion of Maguindanao. It lies at 7º13' North Latitude and 124º14' East Longitude. It is approximately 689.9 nautical miles southeast of Manila and 220 kilometers away from Davao City. The city is bounded on the north by the municipality of Sultan Kudarat with the Rio Grande de Mindanao as its boundary; on the east by the municipality of Kabuntalan; on the south by the municipality of Dinaig, now Datu Odin Sinsuat (DOS), Maguindanao; and Illana Bay on the west.

The total land area of the city is 17, 599 hectares with a total population of 325, 079 as of 2020 PSA Census. The population growth rate is growth rate of 1.64%

HAZARD, VULNERABILITY & RISK ASSESSMENT

C.1. NATURAL DISASTER: FLOOD

The city is situated in the lowest portion of Maguindanao province. The City of Cotabato, with its 37 barangays, spans an area with marked landscapes of flat, level to nearly level, very gently sloping to gently undulation, and moderately sloping or rolling. It is basically a delta formed by two big rivers, the Tamontaka River and the Rio Grande de Mindanao. Basically, 70% of its total land area is below sea level. There are only two existing elevated areas in the city: PC Hill and Timako Hill, with altitudes of 90 and 150 feet, respectively.

The city, through its two (2) major rivers, the Rio Gande de Mindanao, and the Rio Gande de Tamontaka, is the egress of all the waters flowing from upstream through the more than 200,000 hectares of Liguasan Marsh, Ebpanan Marsh, and Butilen Marsh. During continuous precipitation, excessive waters flowing through the rivers of the Ala River, Pulangi River, and Banga River drain into these marshes, consequently exceeding their carrying capacity. So much water then streams down to Cotabato City, bringing with it water hyacinth that clogs bridges and impedes the free flow of water, resulting in the inundation of the low-lying barangays of the city.

During the 2013 flood, around 31,950 families were displaced, or an estimated 127,937 individuals. The affected barangays were predominantly residential and agricultural, damaging crops and properties. The affected barangays are as follows:

Table 1: Barangay affected by flood

	NAME OF BARANGAY	Extent of Flood	Dominant Land Use
1	Poblacion MB	Largely flooded	Residential
2	Poblacion 1	Largely flooded	Residential
3	Poblacion 2	Partly flooded	Residential
4	Poblacion 3	Partly flooded	Residential
5	Poblacion 4	Partly flooded	Residential
6	Poblacion 6	Partly flooded	Residential
7	Poblacion 7	Largely flooded	Residential
8	Poblacion 8	Entirely flooded	Agricultural
9	Poblacion 9	Entirely flooded	Agricultural
10	Bagua MB	Partly Flooded	Residential
11	Bagua 1	Partly Flooded	Residential
12	Bagua 2	Partly flooded	Residential
13	Bagua 3	Partly flooded	Residential
14	Rosary Heights 2	Partly Flooded	Residential
15	Rosary Heights 3	Partly flooded	Residential
16	Rosary Heights 5	Largely flooded	Residential
17	Rosary Heights 6	Largely flooded	Residential
18	Rosary Heights 7	Largely flooded	Residential
19	Rosary Heights 8	Largely flooded	Residential
20	Rosary Heights 9	Partly flooded	Residential
21	Rosary Heights 10	Partly flooded	Residential
22	Rosary Heights 12	Partly flooded	Residential
23	Tamontaka MB	Largely flooded	Residential
24	Tamontaka 1	Entirely flooded	Agricultural
25	Tamontaka 2	Entirely flooded	Agricultural
26	Tamontaka 3	Entirely flooded	Agricultural
27	Tamontaka 4	Entirely flooded	Agricultural
28	Tamontaka 5	Entirely flooded	Agricultural
29	Kalanganan Mother	Partly flooded	Agricultural
30	Kalanganan 1	Partly flooded	Agricultural
31	Kalanganan 2	Partly flooded	Agricultural

C.2. NATURAL DISASTER: EARTHQUAKE

On August 17, 1976, a strong earthquake generated by the Cotabato trench situated in the Moro Gulf shook the island of Mindanao. The 7.8-magnitude earthquake spawned a tsunami that destroyed the 700-km coastline of the Moro Gulf in the North Celebes Sea. It was an earthquake that destroyed immensely the lives and properties of the people in Central Mindanao. According to the Phivolcs report, the tsunami that accompanied the earthquake was responsible for 85% of deaths, 65% of injuries, and 95% of those missing.

After the sea spent its fury and rolled back to its natural flow, thousands of people were dead, others were homeless or missing, and millions of pesos were lost from the damage to properties. Properties lost not only include establishments for residential and commercial use but also bancas that represent the livelihood of families (PHIVOLCS-DOST/Compilation of Damaging Earthquakes in the Philippines).

In Cotabato City, the following buildings were fully or partially damaged:

1. Cotabato Chinese School Gymnasium
2. Administration Building of CCI
3. Harvardian College
4. Administration building of Notre Dame University
5. The Auditorium and Science building
6. The New Residence Hall
7. The Technical School
8. Dawn's Hotel
9. D'Max Restaurant
10. Imperial Hotel
11. Melbourne Hotel
12. New Society Hotel
13. Saguitarius Hotel
14. Sultan Hotel
15. Cotabato Cinema
16. Francel Theater
17. Rita Theater
18. Immaculate Concepcion Church
19. Tamontaka Catholic Church
20. Amicus Building
21. Boston Bakery
22. Cotabato Auto Supply
23. Cotabato Fire and Police Station
24. First Gift and Bookstore
25. LCT Hardware and Auto Supply
26. Melineen Building
27. South Seas Trading
28. Tan Bo Building
29. Tison Building
30. Waterfront warehouses
31. Quirino Bridge
32. Tamontaka Bridge

According to PHIVOLCS, a large tectonic plate traverses Cotabato City from the south of Mindanao towards the Zamboanga Peninsula. A possible re-occurrence therefore remains.

C.3. NATURAL DISASTER: TSUNAMI

The 1976 Moro Gulf earthquake left a haunting legacy, with its tremors shaking the region and unleashing a devastating tsunami that surged to an estimated height of 9.0 meters. Without warning, the colossal waves crashed upon the communities engulfing the Moro Gulf, catching them off guard and inundating their homes and livelihoods.

Stretching as far as 7.0 kilometers inland from the coastline, the tsunami's impact was felt extremely strong in various cities. Places like Pagadian City, Cotabato City, Zamboanga City, and Lebak in Sultan Kudarat take on the force of its wrath, experiencing the highest waves and catastrophic destruction.

Tragically, the toll was steep—approximately 8,000 people perished, including those who vanished without a trace, their fates forever unknown. This catastrophe stands as the most disastrous tsunami to ever strike the Philippines at that time, etching a profound mark on the nation's history.

In Cotabato City, while there is no precise record of the number of families or individuals affected, the impacts of the disaster were undeniable. The City Disaster Risk Reduction and Management Plan of 2012 cited that hundreds of lives were severely impacted by the merciless onslaught of the tsunami.

This catastrophic event not only claimed lives but also laid bare the vulnerabilities of coastal communities and emphasized the critical need for comprehensive disaster preparedness and mitigation strategies. The 1976 Moro Gulf earthquake and its ensuing tsunami serve as a serious reminder of the importance of proactive measures to safeguard lives and mitigate the devastation caused by natural disasters.

(http://www.rappler.com/move-ph/issues/disasters/102827-1976-moro-gulf-earthquake-tsunami)

C.4. NATURAL DISASTER: STORM SURGE

DOST-PAGASA defined storm surge as the abnormal rise in sea level that occurs during tropical cyclones caused by strong winds and low atmospheric pressures produced by tropical cyclones. As the tropical cyclone approaches the coast, strong winds push the ocean water over the low-lying coastal areas, which can lead to flooding. This makes storm surges very dangerous. A storm surge becomes more dangerous when it arrives on top of a high tide. When this happens, it may flood areas that otherwise might have been dry or safe.

On top of the storm surge, big and strong waves generated by powerful winds also come with it.

Among the factors PAGASA considers when identifying the potential impacts of a storm surge are the strength of the tropical cyclone, the height of the surge, and the community located in low-lying areas. A storm surge brings widespread floods, which can extend kilometers from the seashore, depending on the shape and height of the wave. Along with strong waves and forceful winds, a storm surge can destroy and wash away anything in its path.

Though there were no recorded cases of storm surge in Cotabato City, it is still an impending disaster that may hit the city, with the coastal barangays highly exposed.

C.5. HUMAN-INDUCED DISASTER: BOMBING

Cotabato City is not spared from terrorist acts to achieve a political goal. Bombing public places is one way to achieve their ends. However, one of the deadliest bombings in the history of the city was not politically inspired but caused by some immature and irresponsible individuals. In May 2002, a group of teenagers ages 14–17 threw a grenade at a group of concert goers at the compound of St. Joseph Parish Church at Notre Dame Village, Cotabato City, and killed at least 7 people and injured at least 125 people. The explosive was wrapped in iron shavings, which led to many victims. The responders rushed the victims to different hospitals in the city, but there were not enough available hospital beds to accommodate them. The reason for the carnage was that the teenagers got mad after the band refused to play their requested song. Others claimed that the performing band refused the teenagers' request to perform their own act onstage.

On July 5, 2009 (Sunday), an Improvised Explosive Device (IED) went off at a lechon stand fronting the Immaculate Concepcion Cathedral. It was timed to explode just as the church goers were leaving the church after the mass. The incident took the lives of 5 people and injured 29 others.

On August 5, 2013, a car bomb exploded along Sinsuat Avenue, killing at least 8 people, and injuring 40 others. The bomb attack targeted a city official who has been receiving death threats. She was not harmed, though. Some bombs were found a week later and were believed to be connected. Due to the vigilance of the authorities, the bombs were detonated before they could cause injuries.

On Maundy Thursday of 2015, the police found a bomb near a hospital and a mall. The police believe that it was meant for another bomb attack. The

civilians who were in the area alerted the authorities about the suspected bomb. Not far from the site was also another bomb, probably meant as a secondary explosion. The police authorities also discovered this due to the high level of alert.

Also, in the same year, 2015, an improvised bomb exploded on Sinsuat Avenue. The believed targets in this bomb attack were elements of the Special Forces who were on their routine patrol. Two incidents of grenade throwing also occurred in the same year. One was thrown at a passing dump truck, and the latter one was thrown in front of a restaurant. Both incidents happen in almost the same place.

C.6. HUMAN INDUCED DISASTER: ARMED CONFLICT

Cotabato City has long been a symbol of diversity and perseverance, but its history is deeply marked with the scars of armed conflict, which has reshaped the lives of its residents.

Beyond the scars of conflict, there are the heartbreaking stories of Internally Displaced People (IDPs) seeking refuge within Cotabato City's borders. Waves of IDPs have sought safety in the city, coming from adjacent municipalities in Maguindanao and North Cotabato provinces, forced to flee from their homes by the terrible consequences of war.

Cotabato City has become a sanctuary, a haven, for countless families during the darkest hours of conflict. The sudden influx of migrants underscores the city's role as a refuge amidst the turmoil of both natural disasters and man-made conflicts.

In the year 2000, more than 40,000 internally displaced persons (IDPs) took refuge in Cotabato City because of the Moro Islamic Liberation Front (MILF) conflict, where former President Joseph Estrada proclaimed an all-out war. Many of these displaced people chose to make the city their permanent home, sparking a surge in population that changed the city's character.

The arrival of these displaced populations has significantly altered the city's demographics. They brought with them unique stories and cultures. However, this influx has also strained resources and infrastructure, challenging the city's ability to provide essential services.

The aftermath of armed conflict reaches beyond immediate shelter needs, affecting access to education, healthcare, and employment opportunities for both the displaced and the city's original residents. Integration and unity amidst this diversity have become essential challenges for Cotabato City.

As Cotabato City deals with the long-term effects of armed conflict and continues to house individuals displaced by disasters and man-made conflict, urgent, long-term solutions are required.

C.7. HUMAN INDUCED DISASTER: FIRE

Among the most devastating incidents Cotabato City experienced in relation to fire happened in Barangay Bagua Mother (Campo Muslim) back in November 2012. It tore through 21 houses, displacing 43 families and leaving a trail of destruction that lingered long after the flames were extinguished.

Following this, on September 13, 2013, around 50 stalls at the barter trade area on Governor Gutierrez Avenue were razed to the ground. Despite laws forbidding such activities, reports suggested that the fire may have been the result of nearby cooking activities. Although no injuries were reported, the loss of livelihood was immense for the occupants of these stalls.

The year 2015 brought another devastating blow when the Cotabato City Alliance Evangelical Church succumbed to flames in the early hours of April. The fire consumed the church, a school, and the pastor's living quarters, resulting in an estimated loss of 10 million pesos and shattering the heart of the community.

The impact of these fires has been deeply felt, not just in terms of property damage but in the disruption of lives and livelihoods. Families were left homeless, businesses were reduced to ashes, and educational institutions were devastated.

However, these fires have also highlighted critical concerns regarding fire safety, building regulations, and the need for enhanced preventive measures. The necessity for stricter adherence to safety protocols and comprehensive disaster preparedness plans has been underscored by these recurrent tragedies.

Table 2: Significant earthquakes that caused havoc in Cotabato City

DATE	EVENT	DAMAGES
1606 March 9	Cotabato Valley. "The earth shook several times." The earliest mention of earthquakes in Mindanao.	-
1636 December 21	Western Mindanao. Rossi-Forel scale (RF IX). Illana Bay.	Landslides.
1836 January 3/5	Illana Bay. RF VII. Severe in Cotabato and Zamboanga. Very violent. Many volcanoes are active.	-
1869 April 29	Mindanao. Strong earthquake.	The wall of Fort Polloc fell, and some military buildings cracked.
1870 November 4	Central Mindanao. Three strong shocks of long duration. RF VII.	Landslides buried four men. Many aftershocks. Intensity sufficient to damage store buildings.
1871 December 8	Lanao, Cotabato, and Davao. RF IX. Two destructive shocks. (Classified as an important event by Sieberg, 1932, and Lomitz, 1974.)	Not a single building standing in Cotabato or Polloc.
1871 December 9	Some regions of Lanao and Cotabato. RF VIII. Loud subterranean noises. Felt 500 kilometers.	-
1875 August 12	Cotabato and Zamboanga. RF VII.	Damage to private and public buildings.
1882 March 18	Swarm at Cotabato. Some are violent, with rumblings. RF VI to 30	-
1918 August 15	Cotabato. RF IX. Mag. 8.3. Celebes Sea. 5.5 N, 124.5E. Tsunami, Lebak to Glan. Aftershock Mag. 7.0.	-
1923 February 23	Rio Grande de Cagayan. 6'45'N, 123'35'E. Waves entered the rivers of Cotabato.	-
1923 March 2	Cotabato. Mag. 7.2 RF VII. Tsunami.	-
1928 December 19	Cotabato, Zamboanga. Mag. 7.3. RF VII.	-
1928 December 28	Cotabato, Zamboanga. Mag. 6.9. RF VII. Tsunami	-
1931 March 23	Cotabato. RF VII.	-
1955 April 1	Lanao. Mag. 7.6. RF VIII. Landslides and seiche on Lake Lanao. Two Mag. 6.4 aftershocks followed.	Four hundred (400) dead. Quays and bridges were destroyed.
1976 August 17	Moro Gulf, Celebes Sea. Mag. 8.0, dubbed the "Philippines' worst earthquake disaster." 5-meter-high Tsunami.	A total of 4,791 people died, 2,288 went missing, and 9,928 were injured. Another 93,300 were left homeless.

The history of Cotabato City is also intertwined with despairing segments of seismic chaos, each catastrophe leaving an image of disaster carved into the city's very fabric. From the ancient tremors of 1606, which forewarned of impending chaos, to the dreadful earthquakes that struck the center of this region in 1976, the city has stood as a witness to nature's unrelenting wrath.

In 1636, Western Mindanao was devastated by landslides and earthquakes, marking a grim era of natural disaster. In 1836, Illana Bay trembled, with Cotabato and Zamboanga bearing the force of strong tremors as adjacent volcanoes threw rage into the sky.

As time passed, the earthquakes became more destructive. In 1869, the Fort Polloc walls crumbled due to the unrelenting forces of nature. The following years saw continuous shocks, smashing buildings and reducing Cotabato and Polloc to ruins.

On December 8, 1871, a horrific event occurred that would be remembered as a devastating occurrence. Destructive tremors destroyed Lanao, Cotabato, and Davao, casting a shadow over the region. The terrifying echoes of subterranean roars echoed for kilometers.

A series of devastating earthquakes struck in the years that followed. Each shaking left deeper scars than the one before it. The early twentieth century saw the terrifying power of nature's disruptions, with tsunamis devastating the coastlines and leaving an everlasting impression on the city's resilience.

400 people lost their lives in the 1955 landslides and tremors that devastated Lanao. However, the most devastating chapter in Cotabato's history was written in 1976. A magnitude-8.0 earthquake rocked the Moro Gulf, releasing a 5-meter-high tsunami. Thousands died, thousands were injured, and thousands more were left devastated and homeless.

HAZARD IDENTIFICATION

Cotabato City is exposed to both natural and human-induced hazards such as Flood, Earthquake, Tsunami, Fire, Storm surges, bombing incidents and other incidents attributed to special events or high-density population gatherings.

Table 3: Hazard Identification Matrix

Hazard	Probability		Impact		Average Probability + Impact /2	Rank
	Rate	Remarks	Rate	Remarks		
Flood	5	The probability is **ALMOST CERTAIN**. The city is crisscrossed by two huge rivers—Rio Grande and Tamontaka—and three big marshes—Liguasan, Ebpanan, and Butilen—that drain their excess waters into the city's rivers and tributaries, making the city a catch basin for rain and flood waters all over Central Mindanao. In 2022, there were three (3) major flood incidents that occurred.	3	There are twenty-one (21) flood-prone barangays in the city that have experienced perennial flooding with increasing frequency, usually 2-3 times a year. And this has caused apparent damage to properties, both agricultural and structural. Despite this, 37 of the city's barangays are adaptive or resilient, and several mitigation activities (clearing or declogging of canals, flood control drainage projects) were initiated. Therefore, the impact is **MODERATE.**	4	2

Earthquake	4	The presence of earthquake generators, specifically the Cotabato Trench and Mindanao Fault, is what predisposes Cotabato City to experience several ground tremors and earthquakes. Therefore, the probability of an earthquake is **VERY LIKELY.** Based on http://faultfinder.phivolcs, Cotabato City is 20.9 km near the South Barira Fault.	5	In 1976, the Cotabato Trench generated a 7.9-magnitude earthquake, leaving a trail of **DEVASTATING IMPACT** in its wake. There were several damages to properties (establishments, households, and structures) and losses of lives. Also in the downtown area, there is a secondary hazard, which is liquefaction.	4.5	1
Tsunami	3	Earthquake-induced tectonic displacements under the sea are the main cause of tsunamis. It goes without saying that when there is a high-magnitude earthquake, the probability of a tsunami affecting Cotabato City is **LIKELY**.	4	The 1976 earthquake generated a tsunami that had a **SEVERE IMPACT,** affecting more than 700 km of coastline, according to PHIVOLCS. According to the available data, 100 individuals in Kalanganan were affected.	3.5	3
Fire	3	Given the different conditions and factors that may contribute to or result in fire, such as	3	The recent conflagration incident happened in PC Hill RH 1, affecting a total of	3	4

		houses made of light materials and illegal settling, the probability of this hazard, especially in highly susceptible barangays, is **LIKELY**.		17 households. As of November 2022, the damage to properties due to 11 fire incidents cost ₱11.4 million.		
Bombing	3	Recent bombings: Pilot (2022) and Tantawan (2015)—mass casualties.	4	Damage to property and loss of lives.	3.5	3
Storm surge	2	Kalanganan Mother, 1, and 2, are located at the shoreline, above sea level.	2	• Mitigation activities (mangrove planting) • Resilient coastal barangays uphill	2	5
High Density Gathering	2	Based on reports, incidents attributed to these high-density population gatherings are **UNLIKELY.** Therefore, since these are planned events, the likelihood of them causing major affliction can be deterred because there is coordination and proactive and preventive measures are undertaken.	2	Based on the record, the impact of incidents attributed to various special events is **MINOR.** This can range from minor injuries, fainting due to hypoglycemia or suffocation, and possible crowd crushes and human stampedes.	2	5

RISK RATING: PROBABILITY AND IMPACT

Table 4: Probability Rating Scale

Probability Rating Scale				
1 Most Unlikely	**2 Unlikely**	**3 Likely**	**4 Very Likely**	**5 Almost Certain**
The event may occur only in exceptional cases.	The event could occur at some point, but it probably will not.	The event might occur at some point, and probably will.	The event will probably occur in most or many cases.	The event is expected to occur in many or most cases.

Table 5: Impact Rating Scale

Impact Rating Scale				
1 Negligible	**2 Minor**	**3 Moderate**	**4 Severe**	**5 Devastating**
No casualty (dead, injured, missing)	Injured: 1-5 Dead: 0 Missing: 0	Injured: 1-10 Dead: 1-2 Missing: 1-2	Injured: 1 – 50 Dead: 1 – 20 Missing: 1 - 20	Injured: 50 & above Dead: 21 & above Missing: 21 & above
No damage to property.	Minor loss and/or damage to property. Up to ₱200,000.00 worth of damage.	Significant loss and/or damage to property. ₱200,001.00 to ₱1,000,000.00	Major loss to property. ₱1,000,000.00 to ₱5,000,000.00	Catastrophic loss to property. ₱5,000,000.00 above
No delay in normal functioning.	Up to one (1) day of delay in operations.	Up to one (1) week of delay in operations.	Between one (1) month of delay in operations.	More than one (1) month of delay in operations.

Table 4 Hazard Identification Matrix, clearly indicates earthquakes as the foremost concern within Cotabato City, ranking at the top for both probability and impact.

Situated in the lowest terrain of Maguindanao provinces, del Norte and del Sur, Cotabato City spans across 37 barangays, encompassing diverse landscapes from flat to gently undulating terrains. The convergence of the Tamontaka River and the Rio Grande de Mindanao has formed a significant delta, contributing to the city's susceptibility. Notably, approximately 70% of its land area lies below sea level, rendering the region highly vulnerable to flooding and seismic disturbances.

The catastrophic seismic event of August 17, 1976, originating from the Cotabato trench in the Moro Gulf, shook Mindanao to its core. This powerful 7.8-magnitude earthquake triggered a devastating tsunami, ravaging the 700-kilometer coastline of the North Celebes Sea in the Moro Gulf. The aftermath wreaked unimaginable destruction upon the lives and properties of Central Mindanao's inhabitants. According to Phivolcs, the accompanying tsunami accounted for a staggering 85% of fatalities and 65% of injuries and left 95% of individuals unaccounted for—an unparalleled tragedy that scared the region deeply.

Tsunamis, while secondary to earthquakes, pose a significant threat, especially in coastal regions. The interconnection between seismic activities and ensuing tsunamis heightens the risk, amplifying the devastating impact on coastal areas and underscoring the importance of comprehensive disaster preparedness and mitigation strategies.

In 2019, Cotabato province experienced a seismic swarm that shook the region, with three earthquakes registering above 6.0 on the moment magnitude scale. These earthquakes, with an intensity of VIII, reiterated the persistent threat of seismic activity in the area, emphasizing the ongoing vulnerability to such disasters and the potential secondary hazards they pose, including tsunamis in coastal areas.

HAZARD TO PLAN FOR: EARTHQUAKE

Based on the assessment of the hazards, Cotabato City requires having a contingency plan for earthquakes that should help establish an effective and efficient mechanism for preparedness and response.

The anatomy of earthquake is shown below:

Table 6: Anatomy of earthquake

Root Causes	Early Warning Signs	Triggering Factors	Existing Mitigating Measures
• Proximity to the Cotabato trench and Mindanao fault • Sudden movement of faults (nearby cities and municipalities) • Geographic location (pacific ring of fire) • Volcanic Eruption • Human Induced (Bombing) • Tectonic movement near the coastal areas (Tsunami)	• Ground tremor or vibration • Foreshocks (smaller earthquakes) • Erratic animal behaviors • Earthquake Meter (Office of PHILVOCS) • Receding of coastal waters • Loud rumbling sound	• Active Fault line • Earthquake in nearby Cities and Municipalities (epicenter location)	• Earthquake Drills • Strict implementation of Building Code. (Seismic analysis) • Identification of tsunami evacuation areas/site • Identification of Open space for Evacuation • Contingency plan

The table above shows the anatomy of the hazard, which depicts the root causes, early warning signs, and triggering factors that lead to an actual disaster. And at the same time, it shows the existing mitigating measures undertaken by the LGU of Cotabato to lessen or limit the adverse impacts of earthquakes on their locality.

One of the worst disasters on record was the 7.9-magnitude earthquake in 1976 caused by the Cotabato Trench. This violent earthquake occurred on the island of Mindanao, spawning a tsunami that devastated more than 700 kilometers of the coastline bordering the Moro Gulf in the North Celebes Sea. The incident was dubbed the "Midnight Killer" because it happened a few minutes before the last stroke of midnight. The offshore event generated by the Cotabato Trench, a less prominent trench system in the Philippines, was the largest "tsunamigenic earthquake" to have occurred in Mindanao in the last four decades. Based on statistics from the Department of Public Works, Transportation, and Communications, the Mindanao Sulu Secretariat for Social Action, the Office of Civil Defense, and the Philippine Air Force, the tsunami affected the coastal areas of Maguindanao, including Parang, with 409 deaths and 19 missing. (https://www.mindanews.com/).

In a real situation, there is no early warning sign for an earthquake, which can therefore strike anytime. But the aftershocks do not occur right after the main shock. The time interval is a few minutes to several days between the main shock and the subsequent aftershocks. A tremor or vibration can be the earliest warning sign of an earthquake, a possible foreshock, or smaller earthquakes that lead up to the "main" earthquake. But anthropologically speaking, erratic animal behaviors such as scared or confused pets and sudden water level changes in wells or artesian bores have been observed to be correlated to the occurrence of an earthquake.

With the presence of active earthquake generators such as faults and trenches near and within Cotabato City, earthquake occurrences are imminent. The Cotabato City government aims to strengthen its disaster preparedness and response mechanisms to better respond to this inevitable event.

Strict implementation of the Building Code, especially in the issuance of building permits, must be observed and intensified. Conducting regular simulation exercises and drills involving several institutions, private partners, government offices, and local communities must be adhered to.

It is imperative to note that while earthquakes are a primary concern, their aftermath could result in secondary hazards such as tsunamis, especially in coastal regions. Acknowledging this, our disaster preparedness strategies encompass comprehensive measures to anticipate and prepare for the potential impact of tsunamis following a seismic event. This multifaceted approach stands as an indication of our commitment to safeguarding our communities and infrastructure against the unpredictable forces of nature.

SCENARIO GENERATION FOR NATURAL HAZARD: EARTHQUAKE

The following table describes the three different scenarios that may occur if an earthquake hits Cotabato City.

Table 7: Scenario Generation for Natural Hazard

Particulars	Bad	Worse	Worst
Description of the Event	**Intensity 4** **(Moderately strong)** The shaking can generally be felt by people indoors and by some people outdoors.	**Intensity 5** **(Strong)** Generally felt by most people indoors and outdoors.	**Intensity 6 and above** **(Very strong to very destructive)** People are panicky. People find it difficult to stand, even outdoors. Many well-built buildings are considerably damaged. There is a looming threat of a potential tsunami in coastal areas.
Number of Affected Individuals	5% of the total population. 16,000	10% of the total population. 32,000	15% of the total population. 48,000

Casualty:			
No. of Dead	0	1	3
No. of Injured	10	11	16
No. of Missing	0	2	5
Effects on:			
Housing	Minor cracks in the structure	Major damages to the structure	One or more concrete structures collapsed
Properties	Less than ₱100,000.00	₱100,000.00 to ₱1,000,000.00	Above one million pesos
Agriculture and Aquaculture	Less than ₱100,000.00	₱100,000.00 to ₱1,000,000.00	Above one million pesos
Tourism	Less than ₱100,000.00	₱100,000.00 to ₱1,000,000.00	Above one million pesos
Roads and Bridges	Minor cracks in the structure.	Major damages to the structure. Potential damage of tsunami.	One or more concrete structures collapsed. Severe damages caused by tsunami.
Social Services	None	20% of basic social and health services may be disrupted for one (1) day.	50% of basic social and health services may be disrupted for two (2) days to one (1) week.

Livelihood/ Business/Tourism	Less than ₱100,000.00 in damages	15% of livelihoods, businesses, and tourist destinations are affected. The estimated damages are between ₱100,000.00 and ₱1,000,000.00.	30% of livelihoods and businesses are affected. Expected decrease in revenue for our local tourist destination. The estimated damages are above ₱1,000,000.00.
Communication	Communication transmission lines remain intact.	The communication system incurred damage but is restorable within 24 hours. Internet connectivity is remotely interrupted.	The communication system incurred damage, and restoration will require more than 24 hours. Internet connectivity is interrupted in several areas.
Transportation	None	15% of access roads are damaged	30% of access roads are damaged and rendered impassable.

Power /Electricity	None	Electrical or power supply can be immediately restored within 24 hours.	Services are disrupted and may take more than 24 hours or a week to be restored.
Water	None	Stained water source.	Possible contamination of water sources and supplies due to broken water service lines.
Response Capabilities	The LGU has available funds and adequate capacity to address the response requirement.	Damage to critical and lifeline utilities imposed a major challenge that hampers the delivery of basic emergency services.	Emergency response is overwhelmed, and the basic services of the LGU are inaccessible.
Public Trust to the Authorities	Affected residents will trust the response team	Affected residents will doubt the capabilities of the response team	Affected residents will cause unnecessary commotion to disrupt the response team

Table 7 shows the Scenario Generation for Natural Hazard: Earthquake and Tsunami, offers insight into three potential scenarios following an earthquake in Cotabato City, detailing various intensities and their resultant impacts. From moderately strong earthquakes (Intensity 4) felt indoors and by some outdoors to highly destructive earthquakes causing widespread panic and severe damage to well-built structures (Intensity 6 and above), this guide illustrates the diverse effects of seismic activity.

These scenarios outline estimated figures for affected individuals, casualties (including deaths, injuries, and missing persons), and the aftermath across critical city areas and the potential impacts of tsunami. They encompass housing, properties, agriculture, tourism, infrastructure (such as roads and bridges), social services, livelihoods, communication, transportation, power supply, water sources, and the response capabilities of the Cotabato City government.

This comprehensive guide serves as a reference to comprehend the potential outcomes of an earthquake and tsunami, illustrating impacts ranging from minor structural cracks and limited disruptions to more severe damages, service interruptions, and challenges in emergency response and government trust. It also holds applicability in understanding the potential consequences of a tsunami resulting from the earthquake's impact on the city.

AFFECTED POPULATION

Table 8: Affected population

Area / Location	No. of Affected Individuals	Displaced Population		
		No. of Individuals Inside Evacuation Centers (70% of 15% total population per barangay)	**No. of Individuals Outside Evacuation Centers** (30% of 15% total population per barangay)	**Reasons for Displacement**
Bagua MB	2828	1980	848	Unsafe and damages houses,
Bagua 1	1436	1005	431	
Bagua 2	3075	2152	922	
Bagua 3	1068	747	320	
Kalanganan MB	2342	1639	703	
Kalanganan 1	906	634	272	
Kalanganan 2	935	655	281	
Poblacion MB	3233	2263	970	
Poblacion 1	885	620	266	
Poblacion 2	983	688	295	
Poblacion 3	465	326	140	Unsafe and damages houses,
Poblacion 4	1007	705	302	
Poblacion 5	479	335	144	
Poblacion 6	803	562	241	
Poblacion 7	2450	1715	735	
Poblacion 8	1370	959	411	
Poblacion 9	935	655	281	
Rosary Heights MB	2174	1522	652	
Rosary Heights 1	613	429	184	
Rosary Heights 2	781	546	234	
Rosary Heights 3	1682	1177	505	
Rosary Heights 4	683	478	205	
Rosary Heights 5	915	641	275	
Rosary Heights 6	1067	747	320	
Rosary Heights 7	1443	1010	433	

Rosary Heights 8	1329	930	399	
Rosary Heights 9	1217	852	365	
Rosary Heights 10	2453	1717	736	
Rosary Heights 11	1226	858	368	
Rosary Heights 12	727	509	218	
Rosary Heights 13	771	540	231	
Tamontaka MB	1876	1312	562	
Tamontaka 1	690	483	207	
Tamontaka 2	652	457	196	
Tamontaka 3	426	298	128	
Tamontaka 4	583	408	175	
Tamontaka 5	183	128	55	
TOTAL	**46,691**	**32,682**	**14,010**	

The table provided offers a glimpse into the anticipated consequences of an earthquake, encompassing both direct and indirect impacts on the populace. It forecasts the scale of potential displacement, shedding light on the aftermath that ensues after an earthquake happens. According to projections, the seismic event will have a significant impact on 46,691 individuals, with 32,682 of them likely to experience displacement and seek refuge in designated "inside evacuation centers."

The primary cause of this mass displacement lies in the unsafe conditions that render their residences uninhabitable. The enormous destructive force that the earthquake unleashed has completely compromised the structural integrity of their homes. As a result, these individuals are forced to seek shelter in evacuation centers, grappling with the immediate need for safe and secure accommodations amid the devastation.

Moreover, while the table focuses on the immediate impacts following the earthquake, it is crucial to acknowledge the potential aftermath of a subsequent tsunami triggered by seismic activity. The receding waters post-tsunami are likely to reveal a landscape marred by widespread destruction, inundation, and further devastation to both infrastructure and residential areas, potentially exacerbating the displacement crisis and intensifying the need for comprehensive recovery and rehabilitation efforts.

BREAKDOWN OF AFFECTED POPULATION

Table 9: Breakdown of affected population

BARANGAY	15% POPULATION	MALE	FEMALE	Infant (0-11 Months)		Children (17 years old and below)		Adult (18-59 years old)		Elderly (60 years old and above) 20%		Persons with Disability 5%		With ILLNESS 5%		Pregnant Woman 10%
				MALE (15%)	FELAME (12%)	MALE (25%)	FEMALE (23%)	MALE 27%	FEMALE 25%	MALE	FEMALE	MALE (5%)	FEMALE (5%)	MALE (8%)	FEMALE (5%)	
Bagua MB	2828	1697	1131	255	136	424	260	458	283	339	226	85	57	136	57	113
Bagua 1	1436	862	574	129	69	215	132	233	144	172	115	43	29	69	29	57
Bagua 2	3075	1845	1230	277	148	461	283	498	308	369	246	92	62	148	62	123
Bagua 3	1068	641	427	96	51	160	98	173	107	128	85	32	21	51	21	43
Kalanganan MB	2342	1405	937	211	112	351	215	379	234	281	187	70	47	112	47	94
Kalanganan 1	906	544	362	82	43	136	83	147	91	109	72	27	18	43	18	36
Kalanganan 2	935	561	374	84	45	140	86	151	94	112	75	28	19	45	19	37
Poblacion MB	3233	1940	1293	291	155	485	297	524	323	388	259	97	65	155	65	129
Poblacion 1	885	531	354	80	42	133	81	143	89	106	71	27	18	42	18	35
Poblacion 2	983	590	393	88	47	147	90	159	98	118	79	29	20	47	20	39
Poblacion 3	465	279	186	42	22	70	43	75	47	56	37	14	9	22	9	19
Poblacion 4	1007	604	403	91	48	151	93	163	101	121	81	30	20	48	20	40
Poblacion 5	479	287	192	43	23	72	44	78	48	57	38	14	10	23	10	19
Poblacion 6	803	482	321	72	39	120	74	130	80	96	64	24	16	39	16	32
Poblacion 7	2450	1470	980	221	118	368	225	397	245	294	196	74	49	118	49	98
Poblacion 8	1370	822	548	123	66	206	126	222	137	164	110	41	27	66	27	55
Poblacion 9	935	561	374	84	45	140	86	151	94	112	75	28	19	45	19	37
Rosary Heights MB	2174	1304	870	196	104	326	200	352	217	261	174	65	43	104	43	87
Rosary Heights 1	613	368	245	55	29	92	56	99	61	74	49	18	12	29	12	25
Rosary Heights 2	781	469	312	70	37	117	72	127	78	94	62	23	16	37	16	31
Rosary Heights 3	1682	1009	673	151	81	252	155	272	168	202	135	50	34	81	34	67
Rosary Heights 4	683	410	273	61	33	102	63	111	68	82	55	20	14	33	14	27
Rosary Heights 5	915	549	366	82	44	137	84	148	92	110	73	27	18	44	18	37
Rosary Heights 6	1067	640	427	96	51	160	98	173	107	128	85	32	21	51	21	43
Rosary Heights 7	1443	866	577	130	69	216	133	234	144	173	115	43	29	69	29	58
Rosary Heights 8	1329	797	532	120	64	199	122	215	133	159	106	40	27	64	27	53
Rosary Heights 9	1217	730	487	110	58	183	112	197	122	146	97	37	24	58	24	49
Rosary Heights 10	2453	1472	981	221	118	368	226	397	245	294	196	74	49	118	49	98
Rosary Heights 11	1226	736	490	110	59	184	113	199	123	147	98	37	25	59	25	49
Rosary Heights 12	727	436	291	65	35	109	67	118	73	87	58	22	15	35	15	29
Rosary Heights 13	771	463	308	69	37	116	71	125	77	93	62	23	15	37	15	31
Tamontaka MB	1876	1126	750	169	90	281	173	304	188	225	150	56	38	90	38	75
Tamontaka 1	690	414	276	62	33	104	63	112	69	83	55	21	14	33	14	28
Tamontaka 2	652	391	261	59	31	98	60	106	65	78	52	20	13	31	13	26
Tamontaka 3	426	256	170	38	20	64	39	69	43	51	34	13	9	20	9	17
Tamontaka 4	583	350	233	52	28	87	54	94	58	70	47	17	12	28	12	23
Tamontaka 5	183	110	73	16	9	27	17	30	18	22	15	5	4	9	4	7

The table reflects the breakdown of the affected population due to the impact of earthquake. The adult age group (18-59 years old) are predominantly the most affected, followed by the children age group of 17 years old and below. The data also shows the number of vulnerable populations that can be affected such as the elderly, persons with disability (PWD), persons with comorbidities, and pregnant mothers.

CHAPTER II:
GENERAL POLICIES, GOALS & OBJECTIVES

LEGAL BASIS

1. DILG MC 2010-143 dated December 9, 2010; Local Disaster Risk Reduction and Management Council composition.
2. DILG MC 2012-08 dated January 12, 2011: Community Preparedness on Response to Calamity in every flood and landslide prone barangays.
3. DILG MC No. 2008-55 dated April 1, 2008 – Guidelines on the Acceptance and Processing of Foreign and Local Donations during Emergencies and Disaster Situations
4. DILG MC No. 2008-69 dated April 28, 2008 – Encouraging all Local Chief Executives and the Sanggunian to Implement Climate Change Adaptation and Disaster Risk Reduction measures.
5. DILG Memorandum Circular No. 2012-35 dated Feb 21, 2012: Guidelines in Ensuring Public Safety during Man-made and Natural Resources - In line with the objective of the government to have a zero casualties and thus mitigate the effects of man-made and natural disasters, the Department, as the national agency mandated to supervise local government units (LGUs) and their officials, take the initiative in drafting guidelines for the adoption and implementation of necessary emergency measures such as pre-emptive or forced evacuation in areas declared to be imminent danger.
6. RA 10121 - An Act Strengthening the Philippine Disaster Risk Reduction and Management System, providing for the National Disaster Risk Reduction and Management Framework and Institutionalizing the National Disaster Risk Reduction and Management Plan, Appropriating Funds Therefore and for Other Purposes.
7. RA 7160 also known as Local Government Code of 1991 states that all Local Chief Executives are mandated to carry emergency measures as may be necessary during and the after-math of man-made and natural resources and calamities.
8. RA 9003 – Ecological Solid Waste Management
9. RA 970 – Magna Carta of Women 2009- Section 13, Women affected by Disasters, Calamities, and other Crisis Situation.
10. RA 9729 - Climate Change Act of 2009 – An act mainstreaming climate change into government policy formulations, establishing the framework strategy and program on climate change, creating for this purpose the climate change commission, and for other purposes.

OTHER REFERENCES

1. Collective Center Guidelines, 2010
2. DSWD Administrative Department Order No. 26 s. 1998 – Quick Action Response Team (QUART) – A composite team of trained DSWD personnel deployed in area affected by natural, man-made or technological disaster, which after 30% of the given population, and/or when the local capability is inadequate to deliver needed services to victims of disaster.
3. DSWD Administrative Order No.17 s. 2010 – Omnibus Guidelines for Shelter Assistance – to address the emergency and rehabilitation shelter needs of families with damaged houses, restore their lives to normalcy which has been damaged by natural and man-made disaster.
4. DSWD AO No. 12 s. 2004 – Guidelines on the provision of psycho-social and basic services to displaced children in disaster situation.
5. DSWD AO No. 171 s. 2001 – Minimum Standard Rates of Assistance to Victims of Disasters, Distressed and Displaced individuals and families in crisis.
6. DSWD AO No. 68 s. 2000 – Implementing Guidelines on the setting up of Donors Desk
7. DSWD DO No. 3 s. 2000 – Guidelines on DSWD Contribution Towards Comprehensive Plan for Victims of Disasters.
8. IASC Guidelines on Mental Health and Psychosocial support in emergency settings, 20071951 Convention Relating to the Status of Refugees and the 1967 Protocol
9. Inter-Agency Network for Education in Emergencies (INEE) Minimum Standards for Education in Emergencies Chronic Crisis and Early Reconstruction serves both as a handbook containing standards indicators and guidance notes as well as an expression of commitment that all individuals, children, youth, and adults – have a right to quality and relevant education during emergencies and post crisis recovery.
10. JMC No. 17 s. 2008- Guidelines in the coordination of the Delivery of Humanitarian Services to Disaster Victims and Internally Displaced Persons.
11. NDCC Directives No. 24 s. 2003 on "zero casualty" during calamities – the directives give guidance on the activities and precautions local government officials should undertake to ensure the safety of all affected population.
12. NDCC MC No. 12 s. 2008 – Amendment to the NDCC MC No. 5 s. 2007 and No.4 s. 2008 re: Institutionalization of the Cluster Approach in the Philippine Disaster Management System, Designation of Cluster Leads and their Term of Reference at the National, Regional and Provincial Levels.

13. NDCC MC No. 5 Series of 2007 – Institutionalization of the Cluster Approach in the Philippine Disaster Management System, Designation of Cluster Leads and Their Terms of Reference at the National, Regional and Provincial Level.
14. NDRRMC MC 23 s. 2014 – NDRRMC, National Disaster Response Plan (NDRP) for Hydro-Meteorological Hazards.
15. Sendai Framework
16. Sphere Standards, 2004 – Provides an insight in common standards of humanitarian relief, and further provides minimum standards in the following sectors: water, sanitation and hygiene, food security, nutrition, food aid, shelter and settlement, non-food items and health services.
17. The Geneva Convention of 1949 and the two protocols of 1977
18. The Universal Declaration of Human Rights, 1948
19. United Nations Guiding Principles on Internal Displacement, 1998 – Address the specific needs of internally displaced persons worldwide. Identify the rights and guarantees relevant to the protection of IDPs in all phases of displacement, in line with international human rights and humanitarian law.

LOCAL ORDINANCE/RESOLUTIONS

1. Creating the Technical Working Group (TRWG) on Water and Climate Change Resiliency Programs for Cotabato City to work with USAID-BE Secure Project
2. EO – 140, s. 2015 –Creating and Organizing the Technical Working Group (TWG) to assist the city disaster risk reduction and management office (CDRRMO) in building disaster resilient communities in Cotabato City
3. Ordinance No. 4301, s. 2015 – An ordinance prescribing the guidelines on the implementation of pre-emptive or forced evacuation in Cotabato City prior to and during disaster or emergency and danger of loss of lives becomes imminent.

GENERAL POLICIES

The Philippine Disaster Risk Reduction and Management Act of 2010 (Republic Act 10121) shifted the policy environment and the way the country deals with disasters from mere response to preparedness. RA 10121 provides a comprehensive, all-hazard, multi-sectoral, inter-agency, and community-based approach to disaster risk management through the formulation of the National Disaster Risk Management Framework.

A National Disaster Risk Management Plan (NDRMP) is being formulated, developed, and implemented as the master plan that will provide the strategies, organization, tasks of concerned agencies and local government units, and other guidelines in dealing with disasters or emergencies. Through this plan, a coherent, integrated, efficient, and responsive disaster risk management at all levels will hopefully be achieved.

At the international level, the conduct of CP is our commitment to the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030. Specifically, in Paragraph 33, Priority 4 of the Framework, it states that "…national and local governments shall prepare or review and periodically update disaster preparedness and contingency policies, plans and program"

The conduct of CP in the Philippines is also required by RA 10121. Specifically, in Rule 6, Section 4 (3) of the Implementing Rules and Regulations (IRR) of the law, it states that "The Provincial, City and Municipal DRRMOs or BDRRMCs, in coordination with concerned national agencies and instrumentalities, shall facilitate and support risk assessments and contingency planning activities at the local level."

Recognizing the need to develop contingency plans for both natural and human induced hazards, it is indicated in item 6.1.1 of the NDRRMC-NSC JMC No. 1, 2016 that "All DRRMCs at all levels, CMCs at the local level, and individual government departments, bureaus, agencies, offices, units, and instrumentalities shall formulate contingency plans for natural and/or human-induced hazards appropriate to their areas.

The City of Cotabato adheres to the principle of life and property preservation as embodied in the Philippine Disaster Risk Reduction and Management Act of 2010. This contingency plan aims to reduce the risks caused by human error, deliberate destruction, and building or equipment failures. It envisions communities to better cope, anticipate, prepare for, and recover from the human-induced hazards and ensures their ability to continue operating after a disaster. The CP shall provide a clear order of the chain of command and commitment to emergency response actions in times of disasters.

GOAL

The goal of the contingency plan is to provide effective, efficient, timely and well-coordinated response mechanisms in the event of the occurrence of earthquake and tsunami in the City of Cotabato. Such mechanisms shall help to protect the lives, properties, and the environment, and restore the immediate needs of the affected communities.

GENERAL OBJECTIVES

The general objectives of the contingency plan are as follows:

1. To execute an inter – agency and cluster approach coordination in response to emergency, for maximum and judicious utilization of resources;
2. To maximize the use of available local human, material, machineries, and financial resources and to address the gaps;
3. To undertake proactive approach to the conflagration hazard through continuous monitoring and surveillance of the environment and community empowerment for effective response to the said hazard;
4. To ensure the effective, fast, and fair delivery of basic services to survivors needing immediate assistance; and
5. To establish proper coordination through efficient communication and linkage among Response Clusters.

CHAPTER III: RESPONSE ARRANGEMENTS

These are the response clusters under contingency plan for flooding:

Food and Non-Food items cluster which is in charged for strategically prepositioned food and non-food items, provide the most immediate and adequate relief assistance, and lastly to account the special food requirements for children, infants, sick persons.

Health cluster which in charge of emergency health assistance, medicines, and supplies, WASH, and psychosocial support.

Internally Displaced Persons and Camp Coordination and Camp Management cluster will oversee the protection and well-being of the internally displaced persons (IDPs) and to augment all requirements for the management and evacuation of individuals and families.

Logistics cluster oversees the efficient and effective logistics support to other sectors and cluster operations and to build up inter-agency interaction and collaboration to enhance predictability, timeliness, and efficiency of the logistics response.

Emergency Telecommunication cluster is responsible for dissemination of immediate public information regarding the incident and ensure that all forms of communication systems are adequate, reliable, and available.

Education cluster is responsible to provide immediate and continued access to quality education to all school- aged children in the affected area and to ensure safe teaching-learning environment.

Search, Rescue, and Retrieval cluster ensures to conduct effective, timely, organized, and systematic search, rescue, and retrieval operations and provide logistical support to other SRR groups operating on the ground.

Management of the Dead and Missing Cluster is responsible for aiding in the proper identification and disposition of human remains and proper identification of the dead and missing, and to provide the proper information of their whereabouts.

Law and order cluster is responsible to ensure appropriate Law and Order operations, to provide security in the affected area, affected population, properties, cluster personnel and logistics, to ensure vulnerable population specially women, children, person with disabilities and senior citizens receive proper assistance and protected from threats.

Shelter cluster oversees the emergency shelter needs of the affected families including their livestock and coordinate shelter and shelter related items during response for IDPs.

Early recovery cluster is responsible for assessing the early recovery needs, priorities, and restoration of lifeline of the affected families and establish mechanism for the provision of livelihood and other economic opportunities to enable restoration to normal living conditions.

Furthermore, the LDRRMC adopted the cluster approach as strategic action for the over-all implementation of Disaster Response Services. To further operationalize this, the response clusters have been established to undertake coordination functions at the strategic level and to provide resource support for tactical response.

RESPONSE CLUSTERS

Table 10: Response Clusters

Response Clusters	Agencies/Offices Involved															Lead Agency
Food and Non-Food Items	OCSWDS	OHS	LNB	OCAGRI	OCVET	MILG										OCSWDS
Health	OHS	CDRRMO	OCSWDS	CRMC	BFP	LNB	MILG									OHS
IDP Protection	OCSWDS	CDRRMO	OHS	PNP	AFP	LNB	OCPSO	OCE	OCGSO	OCENRO	OCAGRI	OCVET				OCSWDS
Camp Coordination and Management	OCSWDS	CDRRMO	OHS	OCENRO	PNP	AFP	BFP	LNB	OCAGRI	OCVET	OCPSO	OCE				OCSWDS
Logistics	OCGSO	CDRRMO	OHS	OCSWDS	OCE	PNP	AFP	BFP	PCG	LNB	OCAGRI	OCVET				OCGSO
Emergency Telecommunications	OCM CIPD	CDRRMO	OHS	OCSWDS	OCPDC	LNB	WHITE HOUSE									OCIO
Education	MBHTE	OCSWDS														MBHTE
Search, Rescue and Retrieval	CDRRMO	OHS	PNP	AFP	BFP	PCG	LNB	MILG	CRMC	OCPSO						CDRRMO
Management of the Dead and Missing	MILG	CDRRMO	OHS	OCSWDS	AFP	PNP	BFP	PCG	LNB	CSO	CRMC					MILG
Law and Order	PNP	AFP	LNB	OCPSO	PCG											PNP
Shelter	CDRRMO	OCGSO	OCENRO	MILG	LNB	OCPSO	OCPDC	OCSWDS	LNB							OCE
Early Recovery	OCPDC	OCE	OCGSO	OCENRO	AFP	LNB	OCAGRI	MILG	OCPSO	MBHTE	COTABATO LIGHT	MCWD	OCSWDS	PESO	OCM CIPD	OCPDC

SUMMARY OF RESPONSE CLUSTER

Table 11: Summary of Response Clusters

Response Clusters	Lead Agency/Office	Member Agencies and Offices
Food and Non-Food Items (FNFI)	OCSWDS	OHS, LNB, OCAGRI, OCVET, OCGSO, MILG
Health (Medical, WASH, Nutrition, Mental Health, and Psychosocial Support)	OHS	CDRRMO, OCSWDS, BFP, LNB, CRMC, MILG
IDP Protection	OCSWDS	OHS, PNP, OCGSO, OCPSO, AFP, LNB, CDRRMO, OCE, OCENRO, OCAGRI, OCVET
Camp Coordination and Camp Management (CCCM)	OCSWDS	OHS, PNP, OCGSO, OCPSO, AFP, LNB, CDRRMO, OCENRO, OCAGRI, OCVET, OCE
Logistics	OCGSO	CDRRMO, OHS, OCSWDS, OCE, PNP, AFP, BFP, PCG, LNB, OCAGRI, OCVET
Emergency Telecommunications (ET)	OCIO	CDRRMO, OCSWDS, OCPDC, LNB, WHITEHOUSE, OHS
Education	MBHTE	OCSWDS
Search, Rescue and Retrieval (SRR)	CDRRMO	OHS, PNP, AFP, BFP, PCG, LNB, MILG, CRMC, OCPSO
Management of the Dead and Missing (MDM)	MILG	CDRRMO, OHS, OCSWDS, AFP, PNP, BFP, PCG, LNB, CSO, NGO, INGO, CRMC
Law and Order	PNP	AFP, LNB, OCPSO, PCG
Shelter	OCE	CDRRMO, OCPDC, OCGSO, OCENRO, MILG, LNB, OCPSO, OCSWDS
Early Recovery	OCPDC	OCE, OCGSO, OCENRO, AFP, LNB, OCAGRI, MILG, OCPSO, MBHTE, COLIGHT, MCWD, OCSWDS, OCM-CIPD, PESO

FOOD AND NON-FOOD ITEMS (FNFI)

Response Cluster Lead: Office of Social Welfare and Development Services (OCSWDS)

Members: OHS, LNB, OCAGRIC, OCVET, OCGSO, MILG

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

Hospitals are experiencing increase patient loads and medical teams are onsite to provide abrupt care.

Evacuations are being initiated in high-risk areas near damage structures and directed to the evacuation center and evacuation areas.

Response clusters are tasked to prioritize the urgent need for provisions of food and non-food items for the vulnerable groups and the affected communities.

Specific Objectives

1. To ensure the availability of strategically prepositioned food and non-food items;
2. To provide the most immediate and adequate relief assistance (food and nonfood) to the displaced population in coordination with other agencies; and
3. To account for the special food requirements of affected children, infants, and sick persons.

Roles and Responsibilities

The Food and Non–Food cluster have the following roles and responsibilities:

1. Conduct regular inventory and monitoring of prepositioned food and non-food items;
2. Ensure the readiness of the relief supply chain from the master listing, sourcing, storage, and production at the warehouse and delivery to distribution at designated evacuation centers, as well as at the household level;
3. Come up with a relief distribution plan, including the identification of distribution points;
4. Maintain and activate a pool of volunteers who will take charge of the packing and distribution of food and non-food items; and
5. Submit a daily cluster report to the Emergency Operation Center (EOC).

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of different agencies in the Food and Non-Food Item Cluster will convene at the Emergency Operation Center to undertake coordination and mobilization efforts.
2. The FNFI cluster, among others, shall come up with a profile of the affected community through the available primary and secondary data as a basis for projecting the necessary response requirements.
3. Mobilize the Volunteer Repacking Team members and Relief Distribution Teams to ensure the efficiency of goods packing and distribution.
4. The FNFI cluster shall coordinate with other clusters on the different logistical requirements needed, especially during repacking and distribution.
5. The FNFI cluster, in coordination with the IMT, shall come up with a relief distribution plan, including the identification of distribution points in cases where distribution shall not take place within the evacuation centers.
6. The FNFI cluster shall come up with a daily cluster report, which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 12: Response Activities for FNFI

Response Clusters	**Food and Non-Food Items (FI and NFI)**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 3 hours	Setting up of prepositioned FNFIs readily available for distribution (family food packs, kitchen kits, hygiene kits, sleeping kits, and clothing kits)	OCSWDS, OHS, OCGSO
	Activate and manage the QRT repacking and relief distribution teams.	OCSWDS
	Support the on-going repacking of family food packs for hauling and delivery.	OCSWDS
D + 5 hours	Preparation of the relief distribution plan based on the master list and profiling of IDPs through the Disaster Assistance Family Access Card (DAFAC)	OCSWDS
	Activation of a central community kitchen for the initial provision of food	OCSWDS
	Distribution of FNFIs (family food packs, kitchen kits, hygiene kits, sleeping kits, clothing kits, and livestock supplies)	OCSWDS, OHS, OCGSO, OCAGRI, OCVET
D + 8 hours	Prepare a Disaster Response Operations Monitoring and Information Center (DROMIC) report.	OCSWDS
D + 24 hours	Submission of the DROMIC report and request for resource augmentation from the Regional Office (RO)	OCSWDS
D + 24 hours	Continuous monitoring, assessment, and reporting	OCSWDS

RESOURCE INVENTORY

Table 13: Resource Inventory for FNFI

Response Clusters	Food and Non-Food Items (FI and NFI)		
Agency/Office	**Resource**	**Quantity**	**Remarks**
OCSWDS	Manpower (relief packing volunteers)	4 teams	Standby
	Manpower (relief distribution personnel)	2 teams	Standby
	Family food packs: 1. Rice (6kgs) 2. Sardines (3 cans) 3. Canned food (3 cans) 4. 3-in-1 coffee 5. Wheat energy drinks	20,000 units	Repacked and ready to distribute. Stockpile
	Bottled water	20,000 units	
	Hygiene kits	2,000 units	
	Kitchen kits	2,000 units	
	Clothing kits	2,000 units	
	Shelter kits		
	Central community kitchen	2 units	Serviceable
OHS	Manpower (QRT team)	4 teams	Ready to Deploy
General Services Office (OCGSO)	Manpower (relief packing volunteers)	2 teams	Ready to Deploy
	Heavy equipment vehicles	10 units	Serviceable
Philippine Red Cross	Manpower (relief packing volunteers)	2 teams	Ready to Deploy
City Disaster Risk Reduction and Management Office (transport vehicle)	Hilux pick-up vehicle	1 unit	4X4
	Rescue boat	1 unit	White
	Rescue vehicle	1 unit	Serviceable

RESOURCE PROJECTION

Table 14: Response Projection for FNFI

Response Clusters	Food and Non-Food Items (FI and NFI)					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Manpower (relief packing volunteers)	50 volunteers	20 volunteers	30 volunteers	Coordinate with other offices to assist in the relief packing.	₱100,000.00 (food allowance for volunteers)	LDRRMF
Manpower (relief distribution personnel)	20 volunteers	0	20 volunteers	Coordinate with other offices to assist in the relief distribution.	₱100,000.00 food allowance for volunteers)	LDRRMF
Family food pack	67,596 packs	20,000 packs	47,596 packs	Request for augmentation from Regional MSSD.	₱10,000,000.00	LDRRMF
Bottled water (1 galloon)	67,596 units	20,000 units	47,596 units	Request for augmentation from Regional MSSD.	₱2,000,000.00	LDRRMF
Hygiene kit	67,596 units	20,000 units	47,596 units	Request for augmentation from Regional MSSD.	₱1,000,000.00	LDRRMF
Kitchen kit	67,596 units	20,000 units	47,596 units	Request for augmentation from Regional MSSD.	₱1,000,000.00	LDRRMF
Clothing kit	67,596 units	20,000 units	47,596 units	Request for augmentation from Regional MSSD.	₱1,000,000.00	LDRRMF
Shelter kit	67,596 units	20,000 units	47,596 units	Request for augmentation from Regional MSSD.	₱1,000,000.00	LDRRMF
TOTAL					**₱16,200,000.00**	**LDRRMF**

HEALTH (Medical, WASH, Nutrition, Mental Health, and Psychosocial Support)

Response Cluster Lead: Office on Health Services (OHS)

Members: CDRRMO, OCSWDS, BFP, LNB, CRMC, MILG

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

EMS are currently responding to reports of casualties and injuries

Hospitals are experiencing increase patient loads and medical teams are onsite to provide abrupt care.

At the evacuation center, several children and elderly reported to have had trouble of breathing due to exhaustion and debris inhalation, thus require medical attention. Thirty (50) individuals have incurred injuries ranging from minor such as abrasions, minor fractures and punctured and lacerated wounds. Two (5) individuals must be transported to the nearest hospital after they have sustained impalement and head injuries and deep avulsed wounds.

Specific Objectives

1. To provide emergency health assistance services for men, women, children, and other vulnerable groups;
2. To provide technical assistance, medicine supplies, and essential equipment to support basic health services for the affected population;
3. To address the medical, public health, WASH, and nutritional requirements of the affected population and ensure their mental well-being; and
4. Establish coordination, collaboration, and networking within and among clusters.

Roles and Responsibilities

The health cluster shall have the following roles and responsibilities:

1. Provides support for timely and appropriate public health services to the affected population;
2. Conduct a rapid health assessment within 48 hours and develop an action plan;
3. Provision of emergency medical and public health services, particularly first aid, for the wounded individuals;

4. Ensure the timely and appropriate delivery of a quality package of nutrition interventions to the affected population, particularly on the promotion and protection of infant and young child feeding practices, micronutrient supplementation, supplementary feeding, integrated management of acute malnutrition, and others;
5. Ensure that the food provided and distributed is nutritionally adequate, especially for the vulnerable groups;
6. Ensure access to WASH services for affected populations, such as safe and adequate water supply and proper and adequate sanitation in terms of excreta;
7. Disposal hygiene promotion and education, solid waste management and drainage, and vector control during emergencies and disasters; and
8. Consolidate all the activities made by the teams into one cluster report.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the Health Cluster led by the City Health Office (CHO) will convene at the Emergency Operation Center to undertake coordination;
2. The Cluster Lead shall ensure that all personnel and resources necessary to provide fundamental health, mental, and psychosocial services to all affected individuals are readily available for deployment; and
3. The Health Cluster shall establish a regular monitoring system and submit a daily cluster report to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 15: Response Activities for Health

Response Clusters	**Health (Medical, WASH, Nutrition, Mental Health, and Psychosocial Support)**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 1 hour	On-going health emergency management and treatment.	OHS
D + 3 hours	Conduct pre-operational activities such as meetings, convening, and mobilizing emergency response teams; identification of a possible health emergency station and isolation area; inventory of existing and additional health logistics, materials, and medicines; and and delegation of health manpower in every cluster service. (MHPSS, Nutrition, WASH, Medical/Public Health Packages)	OHS
D + 1 day	• Inspection of available potable water supply and access to sanitary toilets • Identification of undernourished or malnourished children • Immunization and provision of health services to vulnerable groups • Provide consultation and treatment • Install health desks to cater to or address the health needs of the affected population • Distribution of hygiene kits for pregnant women	OHS
D + 2 days	Provision of clinical and psychological first aid interventions to identified individuals requiring immediate intervention and referral	OHS, OCSWDS
	Continuous monitoring, assessment, and reporting	OHS

RESOURCE INVENTORY

Table 16: Resource Inventory for Health

Response Clusters	Health (Medical, WASH, Nutrition, Mental Health, and Psychosocial Support)		
Agency/Office	**Resource**	**Quantity**	**Remarks**
OHS (ambulance equipment)	Medic	4 teams	Ready to Deploy
	Ambulance/Patient Transport Vehicle	4 units	2 White Nissan NV350, 2 White Toyota Hi-Ace Commuter
	Utility vehicles	3 units	2 Travis, 1 Grandia
	Fire extinguisher (U-17-0601) Type A-B-C	1 unit	Serviceable
	Spine board with straps	1 unit	Serviceable
	Emergency kit	1 unit	Serviceable
	BP apparatus with stethoscope	1 unit	Serviceable
	Head immobilizer	1 unit	Serviceable
	Oxygen tank	12 units	Serviceable
	Spine board	7 units	Serviceable
	Orange helmet with lamp	2 units	Serviceable
	Stair chair stretcher	2 units	Serviceable
	Portable suction machine	2 units	Serviceable
	Bag mask device (adult, child, infant)	2 units	Serviceable
	Thermal scanner	2 units	Serviceable
	Medical neck collar Cervical traction device	5 units	Serviceable
	Scoop stretcher with spider strap	1 unit	Serviceable
	Head immobilizer	2 units	Serviceable
	Vinyl padded board splint	2 units	Serviceable
	Kendrick extrication device	1 unit	Serviceable

	Cardiac/ CPR board	1 unit	Serviceable
	Spider strap	4 units	Serviceable
	Sams Structural Aluminum Malleable (SAM) splint	10 units	Serviceable
	Basic Mass Casualty Incident (MCI) kit	1 unit	Serviceable
	Global Positioning System (GPS)	4 units	Serviceable
CDRRMO	SRR USAR WASAR	4 teams	Ready to Deploy
	Rescue vehicle type 1	1 unit	Serviceable
	Rescue boat	1 unit	Serviceable

RESOURCE PROJECTION

Table 17: Resource Projection for Health

Response Clusters	Health (Medical, WASH, Nutrition, Mental Health, and Psychosocial Support)					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Tent (Advanced medical post)	3 units	0	3 units	Procurement	₱300,000.00	LDRRMF/NGOs/INGOs/MSSD
Solar-powered refrigerator	1 unit	0	1 unit	Procurement	₱200,000.00	LDRRMF
Therapeutic food	1,000 packs	500 packs	500 packs	Procurement	₱1,000,000.00	ECCD
Solar-powered water purifier	1 unit	0	1 unit	Procurement	₱1,000,000.00	LDRRMF
Beneficial microorganisms for odor and decomposition	15 gals	0	15 gals	Procurement	₱1,500,000.00	LDRRMF
TOTAL					**₱4,000,000.00**	**LDRRMF/MSSD/ ECCD**

IDP PROTECTION AND CAMP COORDINATION & CAMP MANAGEMENT (IDP-CCCM)

Response Cluster Lead: Office of the City Social Welfare and Development Services (OCSWDS)

Members: OHS, PNP, OCGSO, OCPSO, AFP, LNB, CDRRMO, OCE, OCENRO, OCAGRIC, OCVET

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

EMS are currently responding to reports of casualties and injuries

Hospitals are experiencing increase patient loads and medical teams are onsite to provide abrupt care.

Evacuations are being initiated in high-risk areas (coastal areas) and near damaged structures and directed to the evacuation center and evacuation areas.

Additional security personnel are necessary to ensure the safety of IDPs including vulnerable groups in the evacuation center.

Specific Objectives

1. To secure smooth camp coordination and management of identified evacuation centers to house internally displaced persons (IDPs) while observing the minimum health standard protocols;
2. To ensure the protection and well-being of the internally displaced persons (IDPs) from all forms of violence and exploitations; and
3. To aid and augment all requirements for the management and evacuation of individuals and families affected by the incident.

Roles and Responsibilities

The IDP Protection, Camp Coordination and Camp Management clusters have the following roles and responsibilities:

1. Ensure the availability of established safe camps and accessible evacuation centers during emergencies and disasters;
2. Ensure that all IDPs inside camps are properly accounted for using the Disaster Assistance Family Access Card (DAFAC) and other approved profiling systems;

3. Ensure that IDPs are provided with protection and assistance services, including basic needs such as, but not limited to, food and essential non-food items;
4. Ensure that basic medical, public health, mental health, and psychological support and nutrition services are available 24/7 for IDPs;
5. Ensure a multi-sectoral response to assist and protect all IDPs, including their participation in all activities inside the camps;
6. Ensure the protection and well-being of women, children, and other vulnerable populations, specifically from all forms of exploitation, abuse, and violence, while still inside the evacuation camps; and
7. Ensure that evacuation centers are well-managed, including the establishment of designated areas for livestock, pets, and vehicles, as well as the provision of communication facilities and an information board.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the IDP Protection, Camp Coordination and Camp Management Cluster will convene at the Emergency Operation Center to undertake coordination;
2. In coordination with the barangay officials, the cluster leader shall make available for deployment all manpower resources, especially those who have been trained as managers to cover all systems of effective evacuation and camp management;

3. The IDP-CCCM cluster/s should conduct profiling using the Disaster Assistance Family Access Card (DAFAC) and other approved profiling systems;
4. The IDP-CCCM cluster/s shall establish a camp grievance mechanism and referral system for special cases;
5. The IDP-CCCM cluster/s shall establish regular monitoring systems relevant to EC operation, including the submission of a daily cluster report, which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 18: Response Activities for IDP & CCCM

Response Clusters	**IDP Protection, Camp Coordination and Camp Management**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D	The CCCM Cluster will convene for an emergency meeting to plan and activate the Camp Management Teams (CMTs)	OCSWDS
D + 8 hours	Deploy the Camp Management Team (CMT) and set up the camps. (Shelter and accommodation, camp management desk or office, community kitchen, storage area, WASH, health facility, child-friendly space, conjugal/couples' room, prayer room, area for management of livestock and domestic animals owned by the IDPS)	OCSWDS, OCVET, OCAGRI
D + 10 hours	Register IDPs using the Disaster Assistance Family Access Card (DAFAC) or available profiling system, and consolidate data by posting and updating the Information Board	OCSWDS
	Coordinate, monitor, and report on the status of the delivery of services and the conduct of activities in the camp.	LNB, OHS, PNP, OCPSO, OCSWDS
D + 12 hours	IDP-led formulation of house/camp rules	OCSWDS
D + 8 hours	Organization and activation of Camp Management IDP support teams	OCSWDS
D + 1 day	Establish a camp grievance mechanism and referral system for special cases, women and children, and gender-based violence protection services.	LNB, OHS, PNP, AFP, OCPSO
	Maintenance and care of camp facilities	OCSWDS
D + 1 day	Continuous monitoring, assessment, and reporting	OCSWDS

RESOURCE INVENTORY

Table 19: Resource Inventory for IDP & CCCM

Response Clusters	**IDP Protection, Camp Coordination and Camp Management**		
Agency/Office	**Resource**	**Quantity**	**Remarks**
OCSWDS	Utility vehicle	1 unit	Serviceable
	Evaluators	2 teams	Ready to Deploy
	Camp management team	2 teams	Ready to Deploy
	RRM	1 team	Ready to Deploy
LNB	Manpower (BHW)	2 pax per barangay	Ready to Deploy
	Manpower (Tanod)	10 pax per barangay	Ready to Deploy
	Patrol vehicle	1 unit per barangay	Serviceable
OHS	Manpower	4 teams	Ready to Deploy
	First aid kits	20, 000 units	Serviceable
	Ambulance	4 units	Serviceable
Philippine National Police	Mobility assets (organic patrol cars)	2 units	PNP-owned
	Patrol car	10 units	LGU-owned
	Human resource (PNP personnel)	112 personnel	60% of the current strength is deployable during high-risk responses.
General Services Office (OCGSO)	Manpower	2 teams	Ready to Deploy
	Modular tents	4 units	Serviceable

RESOURCE PROJECTION

Table 20: Resource Projection for IDP & CCCM

Response Clusters	**IDP Protection, Camp Coordination and Camp Management**					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Temporary animal shelter	37 units	0	37 units	Procurement	₱1,000,000.00	LDRRMF/ MAFAR
Alternative temporary shelters	37 units	0	37 units	Procurement	₱10,000,000.00	LDRRMF
TOTAL					**₱11,000,000.00**	**LDRRMF/ MAFAR**

LOGISTICS

Response Cluster Lead: Office on General Services Officer (OCGSO)

Members: CDRRMO, OHS, OCSWDS, OCE, PNP, AFP, BFP, PCG, LNB, OCAGRIC, OCVET

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

EMS are currently responding to reports of casualties and injuries

Hospitals are experiencing increase patient loads and medical teams are onsite to provide abrupt care.

SRR/medical and CCCM teams requires additional resources to manage the sudden influx of IDPs and patients.
Urgent communication and coordination among response clusters is being initiated.

Specific Objectives

1. To provide efficient and effective logistics support to other sectors' operations and ensure regular information sharing among all stakeholders and other partners by providing timely and reliable information; and
2. To build up inter-agency interaction and collaboration to enhance predictability, timeliness, and efficiency of the logistics response and meet the needs of affected areas and populations.

Roles and Responsibilities

The logistics cluster shall have the following roles and responsibilities:

1. Oversees all logistics-related activities in the operation, including the supply chain, assessment, materials, and security, and ensures their implementation;
2. Ensures that the logistics department is staffed to adequately support operations;
3. Ensures the availability and functionality of properties and equipment;
4. Monitors and analyzes the security context in the affected areas;
5. Identifies and addresses logistics gaps, bottlenecks, and duplication in humanitarian operations and ensures that they are appropriately addressed;

6. Organizes and monitors the reporting within the affected areas and evacuation centers, ensuring the preparation and submission of adequate and timely reports to the cluster members;
7. Through coordination, monitoring, identification, and deployment, the transportation, inventory, warehousing, and tracking of deployed items;
8. Develop MOAs and MOUs with private companies in transportation, pharmaceutical, petroleum, courier, and other logistics; and
9. Consolidate all the activities made by the teams into one cluster report.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster led by the OCGSO will convene at the Emergency Operation Center to undertake coordination;
2. The logistics cluster shall provide an efficient and effective strategic emergency logistics service for all clusters in terms of supplies and inventory, transportation, warehousing, and service management;
3. The logistics cluster shall organize four (4) sub-clusters, namely:
    a. Supplies and Inventory: provide fuel, generators, and other emergency resources for cluster operations. Further, ensure the tracking of deployed items;
    b. Transportation (land, sea, and air): provide mobility assets for all cluster operations;

c. Warehousing: provide space for the storage and safekeeping of relief goods, supplies, materials, and equipment from the different clusters; and
d. Services: provide road clearing operations, including the restoration and maintenance of utilities such as electricity and water supplies.

4. The logistics cluster members shall immediately submit updated reports on all possible resources and assets that can be utilized immediately;
5. All communication for ordering shall be directed to Cluster Lead through the EOC, who shall then facilitate prioritization and mobilization; and
6. The logistics cluster shall come up with a daily cluster report which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 21: Response Activities for Logistics

Response Clusters	Logistics	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D	Prepares an approved and signed MOA/MOU with identified private companies for transportation, pharmaceutical, petroleum, courier, and other logistics services.	OCGSO
	Coordination with cluster members for the inventory of existing assets and resources, including transportation assets; prepares and consolidates reports.	OCGSO
D + 1 day	Develop a logistic sustainability plan.	OCGSO
	Organize sub-clusters: supplies and inventories, transportation, warehousing, and services.	OCGSO
D + 1 day	Consolidate the lists of available warehouses and their load capacity for the use of the cluster during the disaster, especially for prepositioning and augmentation of resources.	OCGSO
	Inventory and servicing of available communication equipment Purchase or request additional communication equipment	OCGSO
D + 1 day	Receive and facilitate requests for logistical support.	OCGSO
	Coordinate the transport of assistance with concerned agencies.	OCGSO
	Continuous facilitation of the logistical requirements required by the different response clusters of the on-going operation	OCGSO

RESOURCE INVENTORY

Table 22: Resource Inventory for Logistics

Response Clusters	Logistics		
Agency/Office	**Resource**	**Quantity**	**Remarks**
OCGSO	Organic staff		Ready to Deploy
	Detailed personnel		Ready to Deploy
	RCERT/ Responders		Ready to Deploy
	Job-Order /Casuals		Ready to Deploy
	Megaphone	1 unit	Gray
	Fire extinguisher, type: A-B-C	2 units	Color: red, capacity: 4.5, gross weight: 6.2.
	Icom IC-2300H	3 units	VHF Base Radio
	Megaphone	5 units	(Blue grey) 208759
	Charger	1 unit	Icom (black)
	Handheld portable VHF Radio w/ antenna and battery pack	1 unit	Icom V-86
	Handheld radio	1 unit	icon ic v86
	L-foldable tent	3 units	Heavy duty, white
	S-foldable tent	2 units	Heavy duty, white
	Ladder	2 units	Steel ladder
	Water compressor	1 unit	Compressor
	Imarflex Flashlight	14 units	Serviceable
	Head lamp	22 units	Serviceable
	Fire extinguisher	10 units	Serviceable
	Hand operated siren	2 units	Serviceable
	Boom truck/man lifter truck	1 unit	Serviceable
	City government bus	1 unit	serviceable
	Strada pickup truck	1 unit	Serviceable
CDRRMO (Emergency Rescue and Transport Vehicle)	Hilux pick-up vehicle	1 unit	White, 4x4
	Rescue vehicle	1 unit	Serviceable
OHS	Ambulance/Patient Transport Vehicle	4 units	2 White, Nissan NV350 2 White, Toyota Hi-Ace Commuter
OCE	Pay loader	7 units	Serviceable
	Dump truck	5 units	Serviceable
	Forward truck	2 units	Serviceable
	Boom truck	1 unit	Serviceable

RESOURCE PROJECTION

Table 23: Resource Projection for Logistics

Response Clusters	Logistics					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Alternative tents for warehousing	1 unit	0	1 unit	Procurement	₱1,000,000.00	LDRRMF
Power tools	10 units	0	10 units	Procurement	₱1,000,000.00	LDRRMF
Portable gensets	10 units	0	10 units	Procurement	₱500,000.00	LDRRMF
TOTAL					**₱2,500,000.00**	**LDRRMF**

EMERGENCY TELECOMMUNICATIONS (ET)

Lead: Office of the City Information (OCM – CIPD)

Members: WHITEHOUSE, OCSWDS, OCPDC, LNB, OHS, CDRRMO

Scenario:

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

The communication transmissions are disrupted due to damaged wire and satellite towers. There is a need to establish command and control to ensure immediate response operations and emergency communication channels. There is a need to address the public for any information about the incident and the nearest possible evacuation site and tsunami evacuation areas.

Specific Objectives:

1. To establish, oversee and orchestrate an effective and efficient overall response mechanism during emergencies and disasters.
2. To ensure that all forms of communication systems are adequate, reliable, and available for efficient flow of coordination among the involved entities of this plan always.
3. Responsible for the dissemination of immediate public information regarding the incident.

Roles and Responsibilities:

1. Shall be responsible for providing an open and secured communications link between and among agencies, offices and divisions concerned
2. Provide for the maintenance and availability of communications equipment for to the command and operational units
3. Provide updated information regarding the condition of disaster/calamity affected areas
4. Provide updates on the effects of the earthquake and other hazards related to the incident for the residents to undertake necessary measures to avoid loss of life and injury; and
5. Provide information to the public and media regarding the event status

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster will convene at the Emergency Operation Center to undertake coordination;
2. All communication for ordering shall be directed to Cluster Lead through the EOC who shall then facilitate prioritization and mobilization; and
3. The ET Cluster shall come up with a daily cluster report which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 24: Response Activities for Emergency Telecommunication

Response Cluster	**Emergency Telecommunication**	
Timeframe	**Response Activities**	**Responsible agencies/offices**
D + 1 hour	• Open communication lines between responsible agencies and connecting radio frequencies; • Provide communication facilities; and • Monitor weather conditions and updates using available resources and disseminate information to the concerned personnel.	OCIO
D + 3 hours	• Prepositioning of the communication equipment and necessities; • Relay 24-hour weather conditions and advisories; • Pre-positioning of the communication team to provide technical assistance to radio users and checking the serviceability of all issued communication equipment; and • Pre-program all radios to the assigned disaster frequencies in order.	OCIO
D + 8 hours	• Open an alternative emergency communication line; • Frequent signal checks for radio uses; and • Reporting of situational reports every hour as needed.	OCIO
D + 24 hours	• Continuous communication until the operation is terminated; • Continuous dissemination of warning information AOP; and • Continue situational reports as needed.	OCIO

RESOURCE INVENTORY

Table 25: Resource Inventory for Emergency Telecommunication

Response Cluster	Emergency Communication		
Agency/Office	**Resource**	**Quantity**	**Remarks**
OCIO	Handheld Radio	500 Units	Distributed Functional
WHITEHOUSE	Radio Signal Repeater	2 Units	Functional
CDRRMO	Mobile Hotlines	2 Units	Functional
CDRRMO	Telephone Hotline	1 Unit	Functional

RESOURCE PROJECTION

Table 26: Resource Projection for Emergency Telecommunication

RESPONSE CLUSTER	Emergency communication					
RESOURCE	**NEED**	**HAVE**	**GAPS (NEED – HAVE)**	**ACTIVITIES/ SOURCES TO FILL THE GAPS**	**COST ESTIMATES**	**SOURCE OF FUNDS**
Cellular radio	100 units	0	100 units	Procurement	₱1,200,000.00	LDRRMF
Base radio	37 units	0	37 units	Procurement	₱370,000.00	LDRRMF
TOTAL					**₱1,570,000.00**	**LDRRMF**

EDUCATION

Response Cluster Lead: Ministry of Basic, Higher and Technical Education (MBHTE)

Members: OCSWDS

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

Evacuations are being initiated in high-risk areas near damage structures and directed to the evacuation center and evacuation areas.

The books, learner's materials and school bags of the school-aged children and teaching paraphernalia of teachers were damaged and lost leaving them with nothing to use as they go back to their respective schools.

Specific Objectives

1. To provide immediate and continued access to quality education to all school- aged children in the affected area as well as to ensure a safe teaching-learning environment; and
2. To provide affected teachers with psychological first aid intervention to ease their feelings of loss and distress.

Roles and Responsibilities

The Education cluster shall have the following roles and responsibilities:

1. Provide interventions for the well-being of affected learners;
2. Seek support and assistance to enable the early return of affected learners and teachers to their respective schools;
3. Provide Psychological First Aid Interventions for affected learners and teachers; and
4. Preposition Assistance from Education Cluster partners.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.

2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster led by the MBHTE-BARMM Division of Cotabato City will convene at the Emergency Operation Center to undertake coordination;
2. The Education cluster shall coordinate with the respective district coordinators both for resources and any possible needs of the affected learners and teachers;
3. The Education cluster to conduct Rapid Damage Assessment and Needs Analysis (RDANA); and
4. The Education cluster shall come up with a daily cluster report, which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 27: Response Activities for Education

Response Clusters	**Education**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 3 days	Re-orientation on the child-friendly spaces while in evacuation centers.	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
	Inventory of schools used as temporary evacuation centers or camps.	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
	Coordination with the SDO DRRM Team, School Heads, and School DRRM Coordinator	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
	Activation of schools as possible evacuation centers and the SDO Incident Management Team.	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
D + 5 days	Monitoring and conduct of Rapid Damage Assessment and Needs Analysis (RDANA).	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
	Provision of psychological first aid to affected learners and teachers.	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
	Provision of teacher kits and learner kits.	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator
	Continuous monitoring, assessment, and reporting.	MBHTE-BARMM Division of Cotabato City / SDRRM Coordinator

RESOURCE INVENTORY

Table 28: Resource Inventory for Education

Response Clusters	**Education**		
Agency/Office	**Resource**	**Quantity**	**Remarks**
MBHTE-BARMM Division of Cotabato City	Trained psychological first aid providers	60 personnel	Ready to Deploy
	Trained first aiders	48 personnel	Ready to Deploy
	Schools as temporary evacuation center	10 schools	Other schools are not safe to use as evacuation centers.
	Radio handsets	50 units	Need training on the proper use of radio handsets.
	Teacher's Kit		Ready to Deploy
	Learner's Kit		Ready to Deploy
LNB	Manpower (BHW)	2 pax per barangay	Ready to Deploy
	Manpower (Tanod)	10 pax per barangay	Ready to Deploy
	Patrol vehicle	1 unit per barangay	Serviceable

RESOURCE PROJECTION

Table 29: Resource Projection for Education

Response Clusters	**Education**					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Medical equipment (spine boards)	One (1) per identified school as an evacuation center.	0	37 units	Procurement or donations from the city LGU and NGOs.	₱1,295,000.00	LDRRMF/ MBHTE
Oxygen tank with regulator and mask	One (1) per identified school as an evacuation center.	10 units	37 units	Procurement or donations from the city LGU and NGOs.	₱1,110,000.00	LDRRMF/ MBHTE
Tent	One (1) per identified school as an evacuation center.	0	37 units	Procurement or donations from the city LGU and NGOs.	₱1,000,000.00	LDRRMF/ MBHTE
TOTAL					**₱3,405,000.00**	**LDRRMF/ MBHTE**

SEARCH, RESCUE AND RETRIEVAL (SRR)

Response Cluster Lead: City Disaster Risk Reduction and Management Office (CDRRMO)

Members: OHS, PNP, AFP, BFP, PCG, LNB, MILG, CRMC, OCPSO

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

EMS are currently responding to reports of casualties and injuries.

Hospitals are experiencing increase patient loads and medical teams are onsite to provide abrupt care.

The situation requires additional medical and rescue teams to cater to 15 injured and trapped individuals. 5 individuals were reported to have been caught under the debris and presumed dead. SRR operation is challenged due to piled-up debris and residues.

Specific Objectives

1. To conduct effective, timely, organized, and systematic search, rescue, and retrieval operations; and
2. To provide logistical support to other SRR groups operating on the ground.

Roles and Responsibilities

The Search, Rescue, and Retrieval (SRR) cluster assumes critical roles and responsibilities essential in the aftermath of an earthquake and tsunami:

1. Conduct thorough size-up reports to assess the situation, enabling well-informed and effective ground operations;
2. Mobilize and deploy SRR teams swiftly to reinforce and collaborate with Incident Management Teams (IMTs), ensuring a coordinated and synchronized response effort;
3. Ensure the safe, efficient, and respectful rescue of victims and the dignified recovery and transfer of deceased individuals to the appropriate authorities or concerned parties; and
4. Effectively transition and hand over all SRR responsibilities to the designated authorities in a systematic manner, ensuring a seamless transfer of operations and information for continued response and recovery efforts.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster led by the CDRRMO will convene at the Emergency Operation Center to undertake coordination;
2. Upon order, the SRR cluster shall deploy available SRR teams. The SRR cluster shall direct the SRR teams to report to the incident commander for assignment and accounting;
3. The SRR teams shall turn over the rescued victims and the recovered remains or bodies to the concerned or proper authorities;
4. The SRR teams shall perform the decontamination process on the retrieved remains before turning them over to the MDM cluster; and
5. The SSR cluster shall come up with a daily cluster report, which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 30: Response Activities for SRR

Response Clusters	**Search, Rescue, and Retrieval (SRR)**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D	Deployment of SRR teams to conduct rescue and scene-size-up operations.	CDRRMO
	Augmentation to other SRR response units.	BFP, PNP, PCG, AFP, BERT, Other volunteer groups
	Deploy security forces to cordon off, direct traffic, and set up a safety zone around the damaged structures.	PNP, AFP, OCPSO
	On-going SRR operations	CDRRMO
	Deploy security forces to support the SRR operations.	PNP, AFP, OCPSO, PCG
	Ambulance and Medic on standby	CDRRMO, OHS, PRC, BFP
D + 6 hours	Turn over the rescued victims and the recovered remains or bodies to the concerned or proper authorities.	CDRRMO
	Decontamination process of retrieved remains before turning over to the MDM Cluster.	OHS, MILG
D + 1 day	Undertake continuous monitoring, coordination for the response, and augmentation.	CDRRMO

RESOURCE INVENTORY

Table 31: Resource Inventory for SRR

Response Clusters	Search, Rescue and Retrieval (SRR)		
Agency/Office	**Resource**	**Quantity**	**Remarks**
Bureau of Fire Protection	Manpower (operation personnel only)	44 personnel	Active
	Fire trucks	4 units	Serviceable
	Tanker	1 unit	Serviceable
	Rescue vehicle	1 unit	For activation
	Ambulance	1 unit	Serviceable
	Motorcycle for responder	1 unit	Serviceable
	Radio communication	18 units	Serviceable
	Self-Contained Breathing Apparatus (SCBA)	20 units	Serviceable
	Personal Protective Equipment (PPE)	38 units	Serviceable
	Fire hose (1 ½ red)	90 units	Serviceable
	Fire hose (2 ½ yellow)	18 units	Serviceable
	Nozzle	10 units	Serviceable
	Ladder	5 units	Serviceable
	Fire extinguisher	8 units	Serviceable
	Sledgehammer	4 units	Serviceable
	Fire axe	5 units	Serviceable
	Spine board	5 units	Serviceable
	Cast	1 unit	Serviceable
	Bolt cutter	2 units	Serviceable
	Rescue rope	2 rolls	Serviceable
City Disaster Risk Reduction and Management Office	Manpower		
	Fire extinguisher (U-17-0601), type: A-B-C	1 unit	Serviceable
	Spine board with straps	1 unit	Serviceable
	Emergency kit	1 unit	Serviceable
	BP apparatus with stethoscope	1 unit	Serviceable

(ambulance equipment)	Head immobilizer	1 unit	Serviceable
	Oxygen tank	12 units	Serviceable
	Spine board	7 units	Serviceable
	Orange helmet with Lamp	2 units	Serviceable
	Stair chair stretcher	2 units	Serviceable
	Portable suction machine	2 units	Serviceable
	Bag mask device (adult, child, infant)	2 units	Serviceable
	Thermal scanner	2 units	Serviceable
	Medical neck collar, Cervical traction device	5 units	Serviceable
	Scoop stretcher with spider strap	1 unit	Serviceable
	Head immobilizer	2 units	Serviceable
	Vinyl padded board splint	2 units	Serviceable
	Kendrick extrication device	1 unit	Serviceable
	Cardiac/ CPR board	1 unit	Serviceable
	Spider strap	4 units	Serviceable
	Sams Structural Aluminum Malleable (SAM) splint	10 units	Serviceable
	Basic Mass Casualty Incident (MCI) kit	1 unit	Serviceable
	Global Positioning System (GPS)	4 units	Serviceable
Philippine National Police	Mobility assets (organic patrol cars)	3 units	PNP-owned
	Patrol car	3 units	LGU-owned
	Human resource (PNP Personnel)	112 personnel	60% of the current strength is deployable during high-risk responses.

RESOURCE PROJECTION

Table 32: Resource Projection for SRR

Response Clusters	Search Rescue and Retrieval (SRR)					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Rescue Vehicle	5	1	4	Procurement	10,000,000.00	LDRRMF
Rubber Boat with Outboard	2	0	2	Procurement	2,000,000.00	LDRRMF
Drone with tablet and accessories	2	1	1	Procurement	500,000.00	LDRRMF
SRR Personnel	250	150	100	Capacity Training	500,000.00	LDRRMF
SRR Equipment	20 kits	0	20 kits	Procurement	2,000,000.00	LDRRMF
TOTAL					15,000,000.00	

MANAGEMENT OF THE DEAD AND MISSING (MDM)

Response Cluster Lead: Ministry of the Interior and Local Government (MILG)

Members: PNP, BFP, CDRRMO, OHS, OCSWDS, LNB, PCG, AFP, CRMC

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

EMS are currently responding to reports of casualties and injuries

Hospitals are experiencing increase patient loads and medical teams are onsite to provide abrupt care.

Evacuations are being initiated in high-risk areas near damage structures and directed to the evacuation center and evacuation areas.

There are five (5) dead and 15 missing individuals to be retrieved and identified.

Specific Objectives

1. To aid in the proper identification and disposition of human remains in a sanitary and dignified manner with caution to prevent negative psychological and social impact on the bereaved family and the community;
2. To establish resource-sharing mechanisms among key players in the MDM.

Roles and Responsibilities

The Management of the Dead and Missing cluster (MDM) shall have the following roles and responsibilities:

1. Proper retrieval, identification, and disposition of remains in a sanitary manner;
2. Strengthen the coordination and collaboration among partner agencies;
3. Ensure the protection and safety of the responders and volunteers in the retrieval, handling, transport, and disposition of body parts or dead bodies; and
4. Over-all manage the bereaved families by addressing their physiological, social, medical, and psychological needs.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster led by the DILG will convene at the Emergency Operation Center to undertake coordination efforts.
2. The recovery and retrieval of dead bodies shall be done through the different Search and Rescue Units and will be coordinated through the SRR Cluster. The MDM Cluster will only handle the bodies that were already declared dead by the CHO. The same bodies will be handed over to the MDM Cluster for processing and management.
3. The MDM cluster shall cover the areas of Identification of the dead body and its final arrangement, management of the missing persons; and as well as attending to the concerns of the bereaved families.
4. The MDM Cluster shall come up with a daily Cluster Report which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 33: Response Activities for MDM

Response Clusters	**Management of the Dead and Missing**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D	Pre-positioning of MDM teams in tagging areas.	MILG
	Conduct of search and recovery operations (tagging, retrieval, and handling)	CDRRMO, OHS, BFP, PCG, AFP
D + 1 day	Gathering of evidence and identification of retrieved dead bodies, including the issuance of a certificate of identification (PNP) and an issuance of a death certificate (OHS).	PNP, OHS, PCG, AFP
	Final arrangement and disposal of the identified dead bodies to the rightful claimant.	OHS, MILG
	MLGU to dispose of unidentified bodies either by burying them in public cemeteries with unique labels and case numbers.	MILG
	Management of the missing persons.	MILG
D + 2 days	Management of the bereaved families.	OCSWDS
	Continuous monitoring and reporting.	MILG

RESOURCE INVENTORY

Table 34: Resource Inventory for MDM

Response Clusters	Management of the Dead and Missing		
Agency/Office	**Resource**	**Quantity**	**Remarks**
Ministry of the Interior and Local Government (MILG)	Trained MDM focal person	1 team	Ready to Deploy
Office on Health Services (OHS)	Manpower	2 teams	Ready to Deploy
	Cadaver / body bag	100 units	Serviceable
	Camera	1 unit	Serviceable
	Vehicle	2 units	Serviceable
Philippine National Police (PNP)	Manpower (MDM focal person)	1 team	Ready to Deploy
Bureau of Fire Protection (BFP)	Manpower	4 teams	Ready to Deploy
City Disaster Risk Reduction and Management Office (CDRRMO)	Trained MDM focal person	1 unit	Ready to Deploy
	Cadaver / body bag	20 units	Serviceable
	Vehicle	1 unit	Serviceable
LNB	Manpower (BHW)	2 pax per barangay	Ready to Deploy
	Manpower (Tanod)	10 pax per barangay	Ready to Deploy
	Patrol vehicle	1 unit per barangay	Serviceable

RESOURCE PROJECTION

Table 35: Resource Projection for MDM

Response Clusters	**Management of the Dead and Missing**					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Cadaver vehicle	2 units	0	2 units	Procurement	₱3,000,000.00	LDRRMF
TOTAL					**₱3,000,000.00**	**LDRRMF**

LAW AND ORDER

Response Cluster Lead: Philippine National Police (PNP)

Members: AFP, OCPSO, PCG, LNB

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

Evacuations are being initiated in high-risk areas near damage structures and directed to the evacuation center and evacuation areas.

Security measures and police presence are critical in the incident area and in the evacuation center/camps.

Specific Objectives

1. To ensure appropriate law and order operations in critical incident areas;
2. To ensure appropriate escalation protocols prior to the dispatch of force and resources;
3. To provide security in the affected area, affected population, properties, cluster personnel, and logistics;
4. To monitor, coordinate, and resolve any issues in all aspects; and
5. To ensure vulnerable populations, especially women, children, persons with disabilities, and senior citizens, receive proper assistance and are protected from threats such as sexual violence, trafficking, and violence within family units.

Roles and Responsibilities

The Law-and-Order cluster shall have the following roles and responsibilities:

1. Establish a team to protect the affected population, properties, cluster personnel, and logistics;
2. Monitor the situation to address protection concerns in the event of a disaster;
3. Coordinates response for life-saving protection intervention;
4. Mainstreaming protection and promoting non-discriminatory assistance;
5. Prevention and response to violence abuse and exploitation; and
6. Convene cluster meetings for monitoring, assessment, and further planning.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the Law-and-Order Cluster led by the Philippine National Police (PNP) will convene at the Emergency Operation Center to undertake coordination;
2. The Cluster Lead shall ensure appropriate escalation protocols prior to the dispatch of force and resources; and
3. The Law-and-Order Cluster shall establish a regular monitoring system and submit a daily cluster report to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 36: Response Activities for Law and Order

Response Clusters	**Law and Order**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D	Activation of the Cluster Disaster Incident Management Task Group.	PNP
D	Communication lines are activated in the event of the escalation of critical incidents.	PNP, OCPSO, PCG
D + 8 hours	Prepare and organize an appropriate number of personnel to identify evacuation areas and conduct site visits in coordination with the LGU.	PNP, OCPSO
D + 1 day	Activation of the Incident Command Post and Local Task Group.	PNP, OCPSO, PCG
D + 1 day	Mobilizing the Barangay Peacekeeping Action Team (LNB) team to conduct patrols and community policing.	PNP, LNB, OCPSO
D + 1 day	Conduct assessments and monitoring of the situations.	PNP, OCPSO
D + 1 day	Conduct timely and rapid disaster response according to the needs in the area, such as search and rescue operations, evacuation and relief operations, emergency medical services, security, and traffic management operations, in support of and coordination with the LGU.	PNP, OCPSO, LNB

RESOURCE INVENTORY

Table 37: Resource Inventory for Law and Order

Response Clusters	**Law and Order**		
Agency/Office	**Resource**	**Quantity**	**Remarks**
LNB	Manpower (LNB)	10 pax per barangay	
	Patrol vehicle		
Philippine National Police	Mobility assets (organic patrol cars)	3 units	PNP-owned
	Patrol car	3 units	LGU-owned
	Human resource (PNP personnel)	112 units	60% of the current strength is deployable during high-risk responses.
OCPSO	Manpower	70 units	City auxiliary

RESOURCE PROJECTION

Table 38: Resource Projection for Law and Order

Response Clusters	**Law and Order**					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Utility / transport vehicle	2 units	0	2 units	Procurement	₱3,000,000.00	LDRRMF
TOTAL					**₱3,000,000.00**	**LDRRMF**

SHELTER

Response Cluster Lead: Office of City Engineer (OCE)

Members: CDRRMO, OCPDC, OCGSO, OCENRO, MILG, LNB, OCPSO, OCSWDS

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

Evacuations are being initiated in high-risk areas (coastal areas) near damage structures and directed to the evacuation center and evacuation areas.

Two hundred sixty (260) families were displaced and need shelter assistance.

Specific Objectives

1. To assess and analyze the emergency shelter needs of the affected families.
2. To Establish mechanism to coordinate shelter and shelter related items during response for IDPs; and
3. To meet the shelter needs of affected populations more effectively by strengthening leadership, coordination, and accountability in the shelter sector, LNB and the Community people.

Roles and Responsibilities

The Shelter cluster shall have the following roles and responsibilities:

1. Assess the emergency shelter needs of affected families and set targets for prioritization;
2. Determine and ensure the implementation of standards for the provision of emergency shelter assistance and other relevant support services for shelter;
3. Maximize all available materials and resources that can be used for the construction of alternative shelter for IDPs and their live stocks;
4. Responsible for coordinating the response to meet emergency needs, coordinates shelter, settlement, and shelter-related non-food items (NFIs) and long-term needs;
5. Responsible for site planning and settlement design working in close cooperation with other clusters, in particular the CCCM cluster to ensure that the views of the community are well represented;
6. Ensure that coordination mechanisms are established and properly supported

7. Monitor and report on the cluster strategy and its results, and recommend corrective action where necessary; and
8. Ensure that the shelter needs of affected populations are met according to agreed standards and good practices

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster led by the City Engineering Office will convene at the Emergency Operation Center to undertake coordination;
2. The Shelter cluster shall come up with an assessment of the shelter status, needs, and priorities of the affected families; and
3. The Shelter cluster shall come up with a daily cluster report, which shall be submitted to the Emergency Operation Center.

RESPONSE ACTIVITIES

Table 39: Response Activities for Shelter

Response Clusters	**Shelter**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 1 day	Conduct Rapid Disaster Assessment and Needs Analysis (RDANA).	OCE, OCPDC
D + 2 days	Develop tools and guidance for shelter operations.	OCE
	Familiarization of the team and identifying Shelter cluster partners.	OCE, OCSWDS
	Coordination and meeting with other clusters. (CCCM, Logistics, Health, and Protection)	OCE, OCSWDS
D + 2 days	Creation of a Technical Working Group (TWG) as needed.	OCE
D + 5 days	Provision of cash assistance and housing materials and alternative shelter.	OCE, OCSWDS
	Continuous monitoring, assessment, and reporting.	OCE

RESOURCE INVENTORY

Table 40: Resource Inventory for Shelter

Response Clusters	**Shelter**		
Agency/Office	**Resource**	**Quantity**	**Remarks**
City Engineering Office	Trucks	5 units	
	Backhoe	1 unit	
	Engineers	2 teams	
	Manpower	20 pax	
LNB	Manpower	10 pax per barangay	
	Utility vehicle	1 unit per barangay	

RESOURCE PROJECTION

Table 41: Resource Projection for Shelter

Response Clusters	Shelter					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Portable power tools	10 units	0	10 units	Procurement	₱1,000,000.00	LDRRMF
TOTAL					**₱1,000,000.00**	**LDRRMF**

EARLY RECOVERY

Response Cluster Lead: Office of the City Planning and Development Coordinator (OCPDC)

Members: OCE, OCGSO, OCENRO, AFP, LNB, OCAGRIC, MILG, OCPSO, MBHTE, MCWD, COLIGHT, OCM – CIPD, PESO

Scenario

At around 9 am a 7.2 magnitude earthquake struck Cotabato city. The earthquake was felt across a wide area leading to significant ground shaking and structural damages were reported plus there is an imminent threat of tsunami over the coastal regions.

Building, bridges, and other infrastructures had experienced varying degrees of damage, and reports of some collapse structures in some areas.

Evacuations are being initiated in high-risk areas (coastal areas) near damage structures and directed to the evacuation center and evacuation areas.

There is a need to restore lifelines in support to the early recovery of the community.

The emergency has already subsided and the affected families are gradually transitioning to their normal lives.

Specific Objectives

1. To institutionalize the Early Recovery Cluster, specifying its composition, objectives, roles, and interface with other response clusters of the LDRRMC;
2. To determine the specific early recovery interventions with specific timelines of implementation;
3. To involve different agencies, non-government organizations (NGOs), Civic Society Organizations (CSOs), private partners and other external stakeholders in the early recovery operations;
4. To undertake an assessment to determine the early recovery needs and priorities of the affected families;
5. To establish mechanisms for the provision of livelihood and other economic opportunities to enable restoration to normal living conditions (restoration of lifeline);
6. To facilitate the gathering of all available resources from various government and non-government stakeholders for the purpose of early recovery; and
7. To transition to disaster rehabilitation and recovery efforts.

Roles and Responsibilities

The Early Recovery cluster shall have the following roles and responsibilities:

1. Undertake assessment to determine the early recovery needs and priorities;
2. Outsource funding for financial assistance to subsidize early recovery activities;
3. Coordinate with other response clusters that are implementing their respective early recovery efforts;
4. Facilitate food-for-work or cash-for-work schemes; and
5. Provide resources, services and alternatives to livelihood and economic opportunities for the affected communities.

EREID Protocol

In the onset of a conflagration with emerging and re-emerging infectious disease outbreaks, the following special protocols shall be observed:

1. All personnel and volunteers involved in the cluster are recommended to have completed vaccines for the identified infectious disease.
2. Specimen collection shall be conducted after thorough assessment of the Barangay Health Emergency Response Team (BHERT) for staff or volunteers who exhibited signs and symptoms of the infectious disease.
3. All personnel and volunteers shall wear the prescribed personal protective equipment while inside the designated evacuation camp. Camp chefs and food serving crew shall always wear from food preparation to food serving.
4. In cases of airborne infectious diseases outbreak, evacuees are required to wear face mask and observe social distancing.
5. There shall be a yellow bin in the evacuation camp that is intended only for disposal of hazardous or infectious wastes including face masks, hand gloves, and others.
6. There shall be a hand washing area at the entrance of all evacuation camps.

Activation Protocol

1. Upon activation of this contingency plan, all key representatives of the cluster led by the City Disaster Risk Reduction and Management Office will convene at the Emergency Operation Center to undertake coordination;
2. The Early Recovery cluster shall coordinate with other response clusters and conduct a multi-sectoral assessment and analysis to determine early recovery needs and priorities; and
3. The Early Recovery cluster shall periodically report the Essential Elements of Information (EEI) to the Emergency Operation Center (EOC), together with the detailed breakdown and other necessary attachments:
   a) Number of beneficiaries/families, or individuals
   b) Total Cost of assistance and services provided.

RESPONSE ACTIVITIES

Table 42: Response Activities for Early Recovery (Cotabato Light)

Response Clusters	**Early Recovery (Cotabato Light)**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 4 hours	Emergency response to meter-related trouble calls: a. Temporary isolation of some affected areas, as necessary; and b. Energization of areas that are safe from hazards.	Cotabato Light and Power Company (COLIGHT)
D + 8 hours	Monitoring and control of the power system, which starts with the availability of supply from the grid and ends with maintaining uninterrupted power supply to end-users.	Cotabato Light and Power Company (COLIGHT)
D + 24 hours	Assess the damages to assets (actual) by the Damage Assessment Team (DAT): a. Substations b. Primary poles assets c. Secondary pole assets Assess manpower (not affected) by Human Resources and CDMS: a. Organic manpower b. Contractor manpower (To assess whether COLIGHT requires backup from sister companies, Davao Light and/or VECO. Communication is okay. (1-APRM alert) If communication is down, Davao Light and/or VECO will automatically send the workforce.	Cotabato Light and Power Company (COLIGHT)
Onwards	Start of massive power restorations to ensure power is available as early as possible.	Operations team, Cotabato Light and Power Company (COLIGHT)

RESPONSE ACTIVITIES

Table 43: Response Activities for Early Recovery (MCWD)

Response Clusters	**Early Recovery (MCWD)**	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 2 hours	The MCWD will assess the damage caused to water infrastructure, including pipelines, treatment plants, reservoirs, and pumping stations.	Metro Cotabato Water District (MCWD)
D + 3 hours	Repairing and restoring damaged water infrastructure. The MCWD will repair pipelines, treatment plants, and pumping stations to ensure the immediate restoration of a safe water supply.	Metro Cotabato Water District (MCWD)
D + 8 hours	Post-disaster, water quality monitoring, and assessment.	Metro Cotabato Water District (MCWD)
D + 24 Hours	Providing information to the affected population in evacuation camps on safe water usage, conservation methods, and measures to prevent water contamination to avoid water-borne diseases.	Metro Cotabato Water District (MCWD)

RESPONSE ACTIVITIES

Table 44: Response Activities for Early Recovery (City Government)

Response Clusters	Early Recovery	
Time Frame	**Needs / Activities**	**Responsible Agencies and Offices**
D + 5 days	Create and establish the Early Recovery Cluster based on needs.	OCPDC, OCGSO, OCE, CENRO, OCAGRI, OCSWDS, OCM-CIPD, PESO
D + 10 days	Conduct a multi-sectoral assessment to determine early recovery needs and priorities.	OCPDC, OCGSO, OCE, CENRO, OCAGRI, OCSWDS, OCM-CIPD, PESO
	Submit Essential Elements of Information (EEI) together with the detailed breakdown and other necessary attachments: a) Number of beneficiaries, families, or individuals; and b) Total cost of assistance and services provided.	OCPDC, OCSWDS, CDRRMO, OHS
	Coordinate and sustain the early recovery priorities of other response clusters.	OCSWDS
	Facilitate the continuous provision of camp management and protection services and sustain the stable provision of food and non-food items to displaced families.	OCSWDS
	Uninterrupted access to and provision of essential health services for affected families.	OHS
	Continuous support in the delivery of education services in coordination with schools.	MBHTE – SDRRM
	Coordinate with concerned service utilities and/or offices for the restoration of critical facilities and lifelines.	OCPDC, OCGSO, COLIGHT, MCWD, PLDT
	Provide emergency shelter assistance.	OCSWDS, OCE
	Continuous monitoring, assessment, and reporting.	OCPDC, OCSWDS, OHS, CDRRMO

RESOURCE INVENTORY

Table 45: Resource Inventory for Early Recovery

Response Clusters	**Early Recovery**		
Agency/Office	**Resource**	**Quantity**	**Remarks**
Cotabato Light and Power Company	Gang trucks (contractors)	11 units	Intended for power line restorations and other line activities.
	Light vehicles	6 units	Intended for power line restorations and other line activities.
	Trimming crew	3 personnel	Intended to clear trees from power lines unless otherwise the restoration team cannot enter the area due to blockage.
	Motorbike	5 units	Intended for power line restorations and other line activities.
	Generator set	4.45 megawatts	Intended to supply power to: ○ **Hospitals (*CRMC & NDH*)**, ○ **Emergency Operation Center (EOC), (*City Hall*)** ○ **Incident Command System (ICS), (*City Hall*)**; and ○ Selected Feeders & Reclosers.
	Relief assistance	To be determined	Part of the company's corporate social responsibility (CSR) through the Aboitiz Foundation, Inc.
LNB	Manpower (BHW)	2 pax per barangay	
	Manpower (Tanod)	10 pax per barangay	
	Patrol vehicle	1 unit per barangay	

RESOURCE PROJECTION

Table 46: Resource Projection for Early Recovery

Response Clusters	**Early Recovery**					
Resource	**Need**	**Have**	**Gaps (Need – Have)**	**Activities / Sources to fill the gaps**	**Cost Estimates**	**Sources of Funds**
Drone with tablet and accessories	1 unit	0	1 unit	Procurement	₱200,000.00	LDRRMF
Crop insurance	1 package	0	1 package	Compliance to MAFAR requirements	₱100,000.00	MAFAR
Seedlings	70 kgs	20 kgs	50 kgs	Procurement	₱150,000.00	MAFAR
TOTAL					**₱450,000.00**	**LDRRMF/ MAFAR**

RESOURCE GAP SUMMARY

Table 47: Resource Gap Summary

Response Cluster	Total Resource Gaps	Total Cost Estimates
Food and Non-Food Items (FNFI)	8	₱16,200,000.00
Health	5	₱4,000,000.00
IDP Protection and Camp Coordination and Camp Management (IDP and CCCM)	2	₱11,000,000.00
Logistics	3	₱2,500,000.00
Emergency Telecommunication	2	₱1,570,000.00
Education	3	₱3,405,000.00
Search, Rescue and Retrieval (SRR)	5	₱15,000,000.00
Management of the Dead and Missing (MDM)	1	₱3,000,000.00
Law and Order	1	₱3,000,000.00
Shelter	1	₱1,000,000.00
Early Recovery	3	₱450,000.00
TOTAL	**34**	**₱61,125,000**

COORDINATION, COMMAND & CONTROL

FEATURES OF THE EMERGENCY OPERATION CENTER (EOC)

The Cotabato City DRRM Emergency Operation Center is the repository of information and main hub for coordination of the Cotabato City LGU. It serves as the main communication link for all responding units, receives emergency and non-emergency calls, monitors the security and surveillance cameras city-wide, dispatches call(s) to concerned responding units, and receives data and reports from responding units.

The CDRRMC operates on a 24/7 basis once potential and ongoing emergency situations come into affliction within the territorial jurisdiction of the city, in coordination with security and lined agencies. It will undertake an information management function in the event of on-going disaster situations, being the center of all response coordination at the city and barangay levels. It will also monitor the transition from emergency response and relief to the recovery phase.

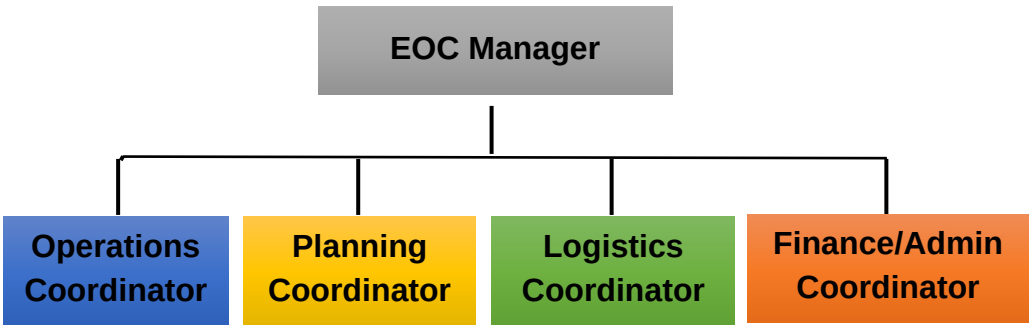
During normal conditions, the operation center functions as a regular office with a skeletal duty team during special operations such as holidays. During emergency conditions and other disaster situations brought about by both sudden-onset and slow-onset disasters, the CDRRMC will activate its Duty Alert System, whereby duty personnel work round-the-clock to continuously monitor the evolving situation. It will process information received from various sources and provide an analysis to get a clear picture of the magnitude of the situation as well as identify the gaps and emergency needs in addressing the requirements of the affected population. It also recommends appropriate actions to undertake to expedite the decision-making process.

The EOC serves as a repository of information and the main hub for the coordination of services and resources to support the management of the disaster for all response clusters and external stakeholders that will be aiding and augmenting during the emergency. It shall utilize support systems such as early warning and emergency broadcast systems, incident command systems, rapid damage assessment and needs analysis, emergency logistics management, public-private partnerships for emergency response, and humanitarian assistance coordination mechanisms.

ORGANIZATIONAL STRUCTURE OF THE EMERGENCY OPERATION CENTER (EOC)

The EOC will be operated with the hereunder organizational structure:

Figure 4: Organizational Structure of the EOC



.The following are the roles and responsibilities for each position that shall be carried out by the designated personnel within the emergency operation center

Table 48: EOC Roles and Responsibilities

POSITION	ROLES AND RESPONSIBILITIES
EOC Manager	Takes guidance from responsible officials; Provides overall leadership in the EOC; and Assigns responsibilities to the EOC staff.
Operations Coordinator	Coordinate requirements for emergency response.
Planning Coordinator	Collects, analyzes, and displays information; Develops, maintains, and disseminates situation reports; Prepares action plans; and Tracks resources.
Logistics Coordinator	Maintains EOC facilities and equipment; and Provides transportation, food, and medical services to all duty personnel.
Administrative and Finance Coordinator	Manages all administrative and financial concerns in the EOC.

INCIDENT COMMAND SYSTEM

The Incident Command System is an on-scene response mechanism that is being implemented for tactical response. Once all the teams have been mobilized on the ground during the worst-case scenarios, they will operate under this system, led by the Incident Management Team.

Below is the organizational structure of the Incident Management Team (IMT) to guide and define how activities such as tasking, coordination, and supervision are directed towards the achievement of its operational goals.

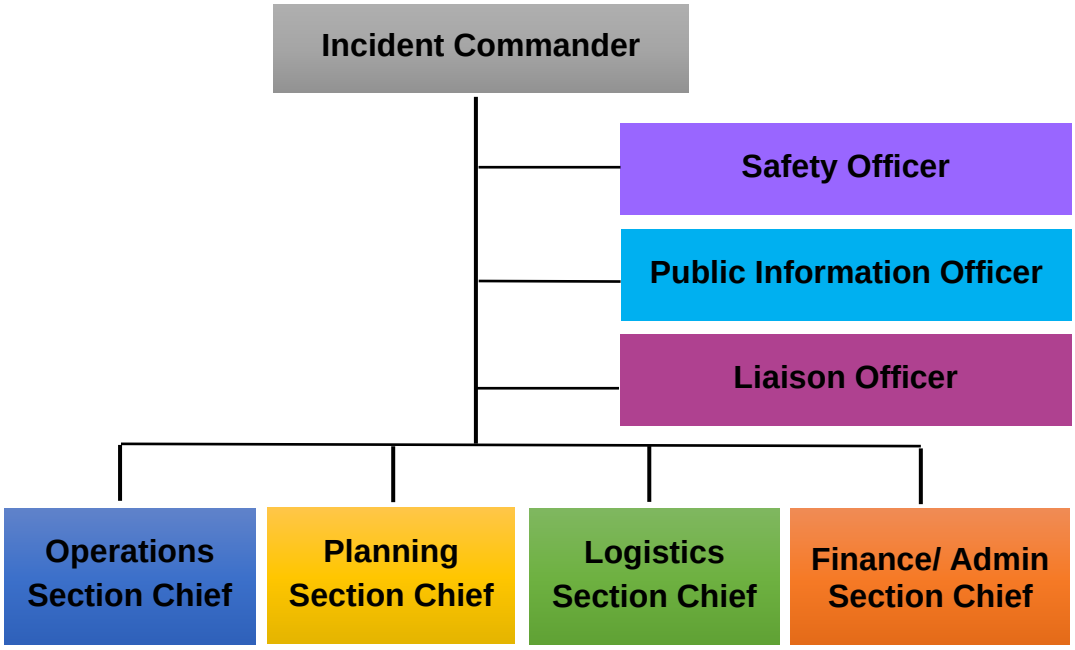


Figure 5: Organizational Structure of the ICS

The following are the roles and responsibilities of each position that will be carried out by the designated personnel:

Table 49: ICS Roles and Responsibilities

POSITION	ROLES AND RESPONSIBILITIES
Incident Commander	Overall management of the incident.
Command Staff	
Public Information Officer	Interacts with the media and the public.
Safety Officer	Assesses all operational safety concerns.
Liaison Officer	Point of contact for other agencies.
General Staff	
Operations Section Chief	Implements tactical activities.
Planning Section Chief	Collects information and prepares reports.
Logistics Section Chief	Provides facilities and support services.
Administrative and Finance Section Chief	Monitors and approves expenditures.

The Incident Management Team headed by an Incident Commander after given the Delegation of Authority by the Responsible Official, performs a coordinated on-scene operation.

The incident commander views the entire incident from an analytical standpoint, keenly investigating, identifying the symptoms, and coordinating the incident response.

The IMT will set out an incident action plan, delegating tasks and liaising with the stakeholders involved. The main goal is to keep moving towards a resolution. The incident commander does this by deciding the next steps to carry out in the incident management process.

INTEROPERABILITY

The Incident Command System (ICS) and Cluster Approach systems are proven to be effective tools in managing actual and potential disaster impacts by enhancing the mechanisms for resource management, reporting and documentation, and optimum achievement of response objectives.

These DRRM tools are interoperable in the sense that the EOC acts as a link between the IMTs and the response clusters. Guided by the duly formulated incident action plan, the team may operate as a single unit or under a unified command, depending on the gravity of the disaster incident.

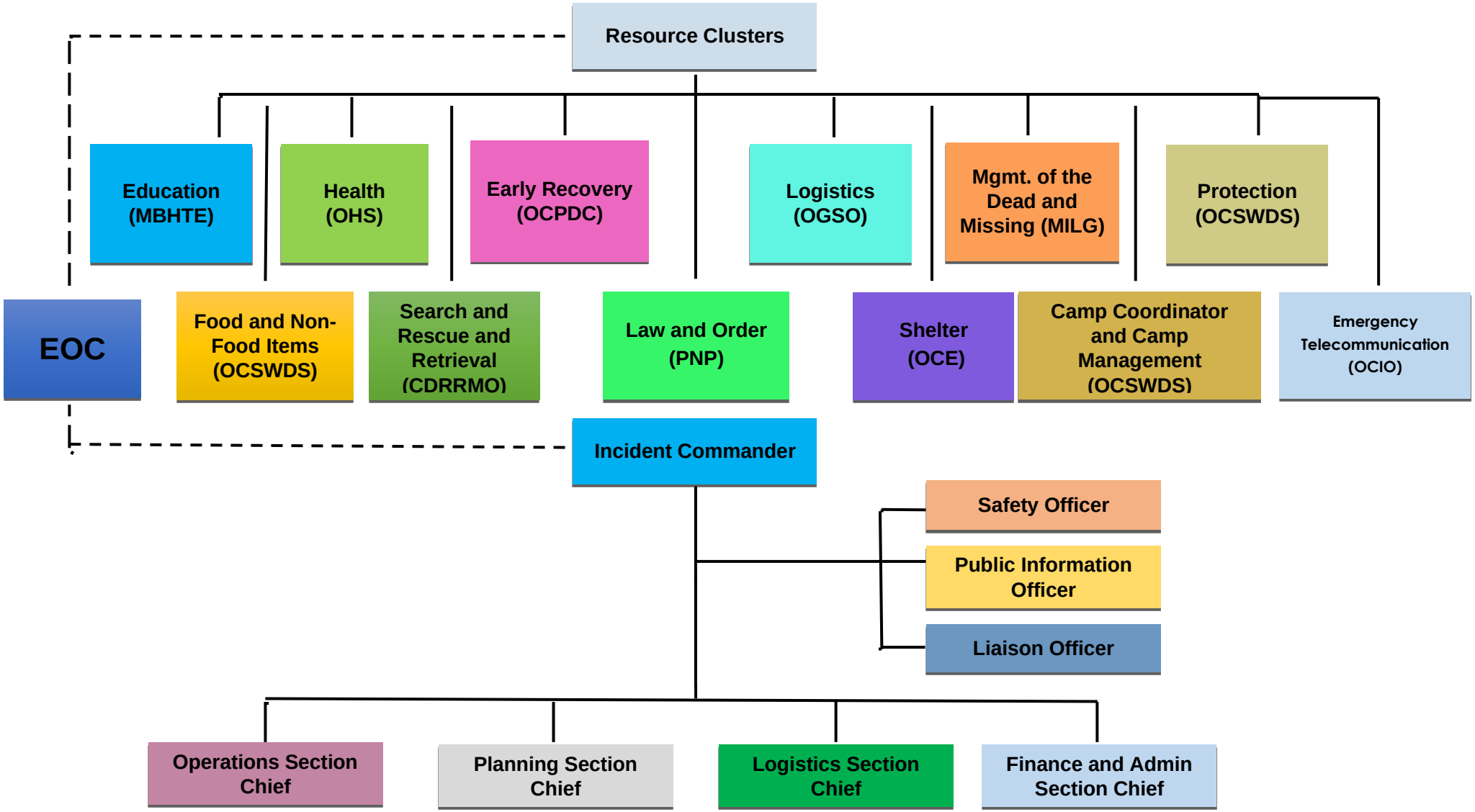
The Response Cluster Leads shall send their team and resources based on their mandates and will be required to check-in and work under the Incident Management Team following the Incident Command System principles. The clusters shall monitor the IMT's activities via the EOC and provide additional resources as needed and requested.

The Incident Management Team shall then be the force-employers where ICS-trained responders operate, while clusters serve as the force-providers where decision-makers usually operate. Cluster resources shall still perform according to their mandates, standard operating procedures, and technical expertise. The IMT will just manage them tactically for proper and efficient utilization of resources.

The chairperson of the LDRRMC shall supervise the coordination activities and strategic decisions of the sectors. These decisions shall then be communicated to the incident commander through the EOC. The incident commander, on the other hand, shall report the tactical activities to the EOC and then to the response cluster.

INTEROPERABILITY

Figure 6: Interoperability



EMERGENCY OPERATION CENTER (EOC)

Table 50: EOC Contact Information

LOCATION	PEOPLE'S PALACE COMPOUND, ROSARY HEIGHTS 10, COTABATO CITY
CONTACT INFORMATION	
Primary	Alternate
Landline: (064) 552 - 1085 Mobile: 0995-981-3015 / 0991-669-4553 Email Address: cotcitydrrmo@yahoo.com.ph Social Media: @Cdrrmocotabato	**Radio Frequency: 146.390 mHz (Whitehouse)**

EOC MANAGEMENT TEAM		
POSITION	**NAMES AND AGENCY/ OFFICE/ ORGANIZATION**	**CONTACT INFORMATION**
EOC Manager	HEAD OF CDRRMO	0991-669-4553
Operations Coordinator	CDRRMO OPERATIONS AND WARNING SECTION CHIEF	064 – 552 - 1085
Planning Coordinator	REPRESENTATIVES/LIAISON OF OCPDC	064 - 552 – 1252
Logistics Coordinator	REPRESENTATIVES/LIAISON OF OCGSO	064 - 552 – 0864
Finance & Administrative Coordinator	REPRESENTATIVES/LIAISON OF OCBO	064 - 421 – 7807

INCIDENT COMMAND SYSTEM (ICS)

Table 51: ICS Contact Information

ICS FACILITIES		
Facilities	**Location**	
Incident Command Post	PEOPLE'S PALACE COMPOUND/CDRRMO OPCEN, RH 10, COTABATO CITY	
Staging Area	Depends on the situation	
Base	City Hall Compound	
Camp	Regional Evacuation Center, CDRRMO Compound, RH 10	
Helispot	Headquarters, 99IB, RH 9, Cotabato City	
Helibase	Awang, D.O.S, Maguindanao	
INCIDENT MANAGEMENT TEAM		
POSITION	**NAMES AND AGENCY/ OFFICE/ ORGANIZATION**	**CONTACT INFORMATION**
Incident Commander	LOCAL CHIEF EXECUITVE (City Mayor)	064 - 557 – 1612
Command Staff		
Public Information Officer	HEAD OF OCIO	064 - 429 – 0524
Liaison Officer	SECRETARY TO THE CITY MAYOR	064 - 421 – 8969
Safety Officer	HEAD OF OCPSO	064 - 421 -5197
General Staff		
Operations Section Chief	HEAD OF CDRRMO	064 – 552 - 1085
Planning Section Chief	HEAD OF OCPDC	064 - 552 – 1252
Logistics Section Chief	HEAD OF OCGSO	064 - 552 – 0864
Finance & Administrative Section Chief	HEAD OF CBO	064 - 421 – 7807

CHAPTER IV: ACTIVATION, DEACTIVATION, AND NON - ACTIVATION

The EOC shall be activated upon detection of earthquake. Since the earthquake in most cases inevitably happens with no specific or single cause that can be predicted over a given time frame. Therefore, the disaster response will initially and primarily focus on preventing casualties and further destruction.

The City Disaster Risk Reduction and Management Office (CDRRMO) being responsible for the provision of safety services shall undertake its functions and duties in ensuring public safety.

CDRRMO EOC ALERT SYSTEM

Sudden Onset Situation

Should the emergency occur during normal duty operations, members of the Quick Response Team (QRT) shall immediately report to the Operation Center upon advice from the duty officer. The relief of QRT will start upon the assumption of duty by the activated alert team.

SOP AND GUIDELINES DURING ACTIVATION PERIOD

It is imperative to organize and deploy an RDANA team to take a snapshot of the disaster situation. And based on the findings and recommendations of the Rapid Disaster Assessment and Needs Analysis (RDANA) team, this contingency plan may be activated.

Rapid Damage Assessment and Needs Analysis (RDANA) is a disaster response tool that is used immediately during the early and critical state of the onset of a disaster. This tool will help the EOC identify the magnitude of a disaster by focusing on the general impact on the community and the affected population's coping capacity due to the disaster incident.

The RDANA will further help in determining the immediate relief and response requirements as dictated by the type, scale, and characteristics of the incident.

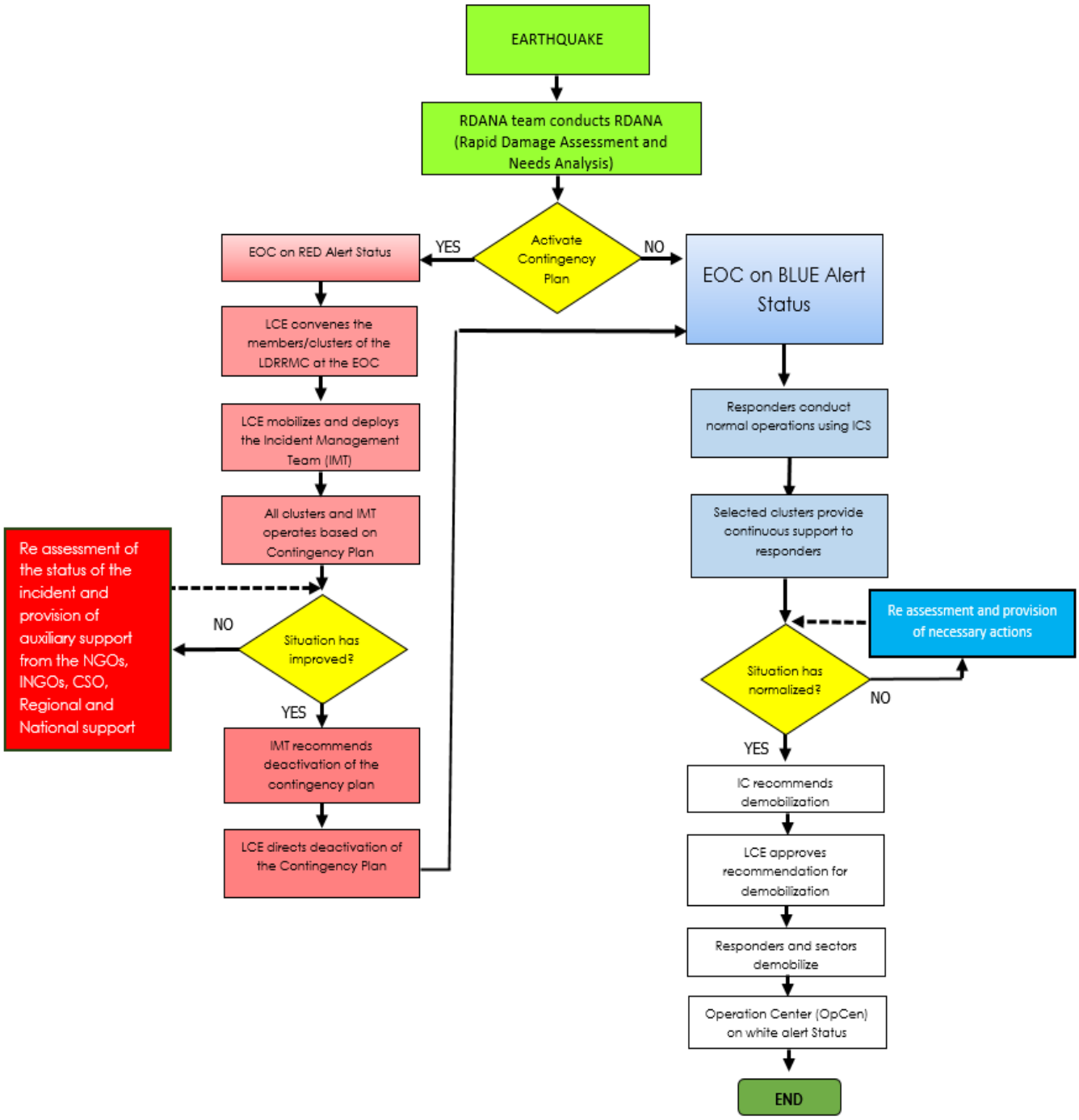
RESPONSE REQUIREMENTS

1. Prepare situational reports and the RDANA report for the Chairman, LDRRMC.
2. Coordinate with implementing agencies to maximize the mobilization of resources.
3. Monitor the declaration of BDRRMCs in their area under the State of Calamity and report it to BDRRMC and OCD.
4. Immediately implement the cluster approach coordination mechanism, and the CDRRMO Secretariat shall facilitate the conduct of emergency meetings presided over by the LCE or his designate with the cluster leads to effectively address the response requirements.

ACTIVATION AND DEACTIVATION FLOWCHART

The procedures for activating and deactivating the contingency plan shall adhere to the flowchart below:

Figure 7: Activation and Deactivation of Flowchart



Upon activation of the Emergency Operation Center (EOC), the Local Chief Executive shall convene all the response clusters to assess the situation and activate the Incident Command System (ICS) and delegate authority to the Incident Commander (IC) and to proceed to organizing the Incident Management Team (IMT) and implement tactical activities based on the strategic decisions of the response clusters.

The contingency plan shall be deactivated once the situation has improved and when heightened alert is no longer required. The recommendation for deactivation shall emanate from the Incident Commander to the Local Chief Executive via the Emergency Operation Center (EOC). Once deactivated, operation will remain until such time that the EOC will be back to "white alert" status. At this point, the operation is already terminated.

Downgrading or lowering the CDRRMO EOC's alert status shall be upon the memorandum order of LDRRMC, and the recommendation of Head, LDRRMC Duty Personnel. Downgrading from RED to BLUE to WHITE shall be determined based on the condition of affected population/barangay. Termination of disaster response such as relief operations, search, rescue, and retrieval can be the basis of downgrading the alert status.

However, when downgraded into normal condition (white), LDRRMC member- agencies are still required to submit report/update to CDRRM EOC from time to time.

NON – ACTIVATION

The Contingency Plan shall be deemed as non-activated until RDANA report is being considered. The plan will be maintained as a perpetual or a continuing plan for it can still be utilized for future use in case the same hazard will occur.

This Contingency Plan can also be incorporated to the plan of the Local Disaster Risk Reduction and Management Plan of the Cotabato City LGU to improve our preparedness and response capacities and allocating financial resources to address the gaps identified through this plan.

ANNEXES

ANNEX 1: TECHNICAL WORKING GROUP

TERMS OF REFERENCE

Purpose: The Working Group shall be the focal body in charge of the refinement, finalization, testing, evaluation, packaging, updating and improvement of the contingency plan under the supervision of the Local Disaster Risk Reduction and Management Office (LDRRMO). The group shall work closely with the planners of Cotabato City LGU for the attainment of the Contingency Planning objectives.

Functions:

1. Facilitate the refinement and finalization of the contingency plan to include testing, evaluation, packaging, updating and improvement;
2. Develop work plan for the completion and updating of the contingency plan;
3. Organize consultation meetings with the planners and relevant subject matter experts regarding the development of the contingency plan; and
4. Facilitate the presentation and endorsement of the contingency plan to LCE and the LDRRMC for comments and approval and submission to the Sangguniang Panlungsod for review and adaption.

Members' Duties and Responsibilities:

1. Overall Coordinator: in charge of the CP process; monitors the progress of CP; initiates the conduct of meetings to review, evaluate and update the contingency plan, as necessary; disseminates updates on the contingency plan to agencies/offices concerned; leads the conduct of simulation exercises to test the coherence and integrity of the plan.
2. Secretariat: facilitates CP meetings, workshops, and simulation exercises; drives the CP participants to achieve the target outputs; documents proceedings of the meetings, workshops, and simulation exercises; take charges of the reproduction and distribution of the contingency plan and other materials to the concerned meeting attendees and workshop participants.

3. Technical Staffs: write the contents of the actual contingency plan; assimilates comments, inputs and recommendations gathered during meetings, workshops, and simulation exercises to improve the contingency plan; consolidates the outputs from the clusters and integrates them into the overall contingency plan.
4. Sector Leads: facilitates the completion of sub-plan for the respective sector, including the accomplishment of the CP forms; ensures the availability of data for the specific sector; coordinates with other clusters to ensure that the preparation of sub-plans is on track, that the different cluster plans are consistent with each other, and that all clusters are familiarized with their tasks likely to be performed in case of an emergency.

Composition:

Role	Names	Office	Contact Number
Over-all Coordinator	Amil P. Esmael	CDRRMO	09959813015
Secretariat/ Technical Staff	Amirah L. Juanday, RN Karen Pete S. Liloc, RCrim Reyuard B. Jose Engr. Primitiva Joy Visitacion	CDRRMO	09167059025 09751746178 09366671662 09453347165
Food and Non-Food Items Cluster Lead	Asrap R. Abubakar, RSW Rehana R. Abubakar, RSW	OCSWDS	09772180344
Health (Medical, WASH, Nutrition, Mental Health, and Psychosocial Support) Cluster Lead	Alfred S. Nograles, RM	OHS	09155398219
IDP Protection Cluster Lead	Asrap R. Abubakar, RSW Rehana R. Abubakar, RSW	OCSWDS	09772180344
Camp Coordination and Management Cluster Lead	Asrap R. Abubakar, RSW Rehana R. Abubakar, RSW	OCSWDS	09772180344
Logistics Cluster Lead	Engr. Nerio Zambrano	OCGSO	09177260509
Education Cluster Lead	Representative from school division of Cotabato City	MBHTE	064 – 552 - 3221
Search, Rescue and Retrieval Cluster Lead	Rashman Nazer D. Lim, RN, EMT, CTN SFO3 Darwin Sapayani	CDRRMO BFP	09478917441 09754277985
Management of the Dead and Missing Cluster Lead	Amirah Fatmah Nowanghan	MILG	09564485913
Law and Order Cluster Lead	PLT. Jonathan L. Marciano Letty C. Perocho	PNP OCPSO	09685401606 09557097142
Shelter Cluster Lead	Ivann Gerard J. Kamensa	OCE	09270057235
Early Recovery Cluster Lead	Engr. Oscar B. Rendon Engr. Abdulbady Madugay	OCPDC	09665685679 09205281663

ANNEX 2: LDRRMC DIRECTORY

OFFICE	NAME/POSITION	CONTACT NO.
OFFICE OF THE CITY MAYOR	MOHAMMAD ALI C. MATABALAO	064 – 557 – 1612
OFFICE OF THE CITY ADMINISTRATOR	ABDULWAHAB D. MIDTIMBANG	064 – 557 – 2132
CITY DISASTER RISK REDUCTION & MANAGEMENT OFFICE	AMIL P. ESMAEL	064 – 552-1085
CITY PLANNING AND DEVELOPMENT OFFICE	ENGR. MA. ADELA A. FIESTA, MPA, ENP	064 – 552-1252
OFFICE ON HEALTH SERVICES	HARRIS ALI, MD	09276122375
CITY ENVIRONMENTAL & RESOURCE OFFICE	ENGR. CRISANTO B. SAAVEDRA	064 – 557-1453
CITY OCAGRICCULTURE OFFICE	ROY JESUS B. FIESTA	09554209416/09678520659
CITY ENGINEERING OFFICE	ENGR. SAMUEL JOROLAN	064 – 557 – 1807
CITY BUDGET OFFICE	REGINA G. DETALLA	064 – 421 – 7807
CITY PUBLIC SAFETY OFFICE	ADAM GUIAMAD	064 – 421 – 3569
OFFICE OF GENERAL SERVICES	PEDRO D. TATO	064 – 522-0864
CITY TREASURY OFFICE	TEDDY U. INTA	064 – 421 – 3506
OFFICE ON SOCIAL WELFARE AND DEVELOPMENT OFFICE	ASRAP P. ABUBAKAR	064 – 421-3140
MINISTRY OF LOCAL GOVERNMENT-COT CITY	MUHAMMAD FARZIEH B. ABUTAZIL	09174790068
COTABATO CITY POLICE OFFICE	PCOL QUERUBIN L MANALANG, JR	09975445872
ARMED FORCES OF THE PHILIPPINES – JTF	COL GLENN LORETO T. CABALLERO INF (GSC)PA	09974814033
COTABATO LIGHT & POWER COMPANY	VALENTINE S. SALUDES III, PEE	09065296208
METRO COTABATO WATER DISTRICT	ENGR. JASPER OCHIA	0920 668 5454
DEPARTMENT OF EDUCATION	SARAPIA G. TALAPAS	09171337952
COTABATO REGIONAL AND MEDICAL CENTER	ISHMAEL R. DIMAREN, MD, MHA, FPCS, FPSGS, FPSCRS	0998 878 1305
PHILIPPINE RED CROSS-COTABATO CHAPTER	AUTHORIZED REPRESENTATIVE	0975 399 7748
BUREAU OF FIRE – COTABATO CITY	F/INSP IKE J. LACHICA, JR.	064 – 552 – 1785

ANNEX 3: DEMOGRAPHIC PROFILE BY GENDER

BARANGAT	BY SEXES																																		TOTAL
AGE	0-6 mos		7mos- 1y.o		2-4y.o		5-6y.o		7-12y.o		13-18y.o		19-22y.o		23-29y.o		30-34y.o		35-39y.o		40-44y.o		45-49y.o		50-54y.o		55-59y.o		60-64y.o		65-70y.o		71-80y.o		81-90y.o		91 above		
GENDE	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
MBRH	265	262	266	275	386	392	497	471	587	568	555	562	524	598	634	668	647	643	672	669	646	648	570	584	516	578	432	429	322	220	216	213	140	142	60	52	40	30	15979
ROSAR HEIGHTS 1	22	11	49	32	104	90	72	75	199	208	244	225	188	195	94	136	294	299	238	209	198	287	252	223	216	236	118	133	76	89	72	89	35	61	26	19	4	13	5131
ROSAR HEIGHTS 2	8	9	22	28	70	54	63	119	149	133	153	146	132	144	356	342	238	214	214	223	236	242	136	148	133	154	78	67	40	63	55	78	30	71	6	17	0	6	4377
ROSAR HEIGHTS 3	147	169	176	171	389	382	275	270	308	313	638	609	818	840	581	639	981	581	295	229	599	680	313	478	337	395	367	251	50	40	50	20	99	40	43	10	1	2	12586
ROSAR HEIGHTS 4																																							
ROSAR HEIGHTS 5	84	87	171	132	183	173	202	215	223	229	213	215	148	232	265	255	224	286	304	297	143	142	198	183	116	128	192	129	76	131	72	78	73	96	65	27	45	41	6073
ROSAR HEIGHTS 6	46	78	81	68	130	105	315	211	330	295	416	341	303	333	273	596	364	368	302	295	261	255	317	286	218	244	107	128	90	99	71	80	49	80	17	45	2	7	7606
ROSAR HEIGHTS 7	185	160	248	140	163	256	370	400	1000	1000	620	570	300	620	230	230	200	270	364	448	320	600	450	330	445	200	300	336	240	260	310	134	280	215	200	205	6	8	12613
ROSAR HEIGHTS 8	82	192	214	246	896	652	452	325	778	850	1,299	1,548	543	254	587	402	209	186	188	172	68	45	42	51	28	32	55	31	138	113	140	118	112	79	60	48	52	38	11325
ROSAR HEIGHTS 9	84	61	151	141	82	85	200	222	731	725	519	524	467	463	496	503	375	378	218	215	218	218	304	318	322	393	278	272	232	186	99	84	90	78	48	42	8	11	9841
ROSAR HEIGHTS 10	373	258	477	248	497	367	722	348	596	681	812	424	863	410	627	431	654	440	744	348	621	368	585	382	566	245	514	298	559	235	467	276	376	266	320	199	0	0	16597
ROSAR HEIGHTS 11	25	22	34	30	137	108	81	91	426	343	511	446	460	453	653	432	403	426	347	387	305	289	324	282	284	311	210	214	116	150	51	79	46	81	27	24	4	3	8615
ROSAR HEIGHTS 12	18	16	75	102	188	205	30	52	173	198	233	266	310	246	264	248	180	197	142	156	117	150	112	129	113	133	68	89	207	220	157	199	155	149	24	44	0	0	5365
ROSAR HEIGHTS 13	13	14	16	13	15	30	8	10	87	72	461	399	61	68	145	136	250	247	202	228	343	380	455	320	396	340	351	217	78	66	68	60	27	22	8	3	4	1	5614
BAGUA MOTHER																																							
BAGUA 1	110	250	158	218	1119	1381	389	911	233	267	175	225	275	280	230	220	195	355	224	277	295	305	271	284	233	362	194	300	39	56	44	66	31	50	9	9	4	6	10050
BAGUA 2	127	102	232	137	640	692	820	870	920	776	1633	1658	656	651	576	795	654	750	590	763	657	708	557	668	730	770	595	600	107	71	143	138	46	102	28	33	2	1	19998
BAGUA 3	143	157	195	200	200	220	210	238	227	232	225	230	227	223	200	249	210	243	220	230	215	234	205	240	218	222	210	220	198	230	171	174	160	179	0	0	0	0	7155
POBLACION MOTHER	466	370	467	376	588	508	589	509	832	730	932	817	1300	1350	1421	1376	634	560	634	567	538	560	530	560	534	310	270	680	450	385	230	320	230	320	250	340	26	20	21579
POBLACION 1	34	30	73	79	64	76	284	304	449	390	408	531	410	561	502	566	347	563	410	502	301	429	249	368	209	311	126	130	54	79	33	51	25	56	6	15	0	4	9029
POBLACION 2	111	120	256	264	302	305	272	221	268	226	461	443	378	453	342	394	406	428	333	350	336	370	356	472	284	313	325	330	32	34	40	45	31	33	21	25	1	3	9384
PBLACION 3	27	153	98	94	102	106	206	189	101	106	315	326	145	150	85	117	165	172	169	137	107	96	280	201	60	66	60	66	21	18	51	49	16	16	0	0	0	0	4070
POBLACION 4	39	61	65	98	199	149	159	145	310	443	422	406	289	388	400	365	333	389	260	301	170	154	189	233	127	106	99	98	86	102	65	92	50	89	7	53	1	1	6943
POBLACION 5	3	2	7	12	30	67	35	34	71	67	70	75	45	70	125	140	75	79	50	70	60	70	68	75	55	67	70	64	65	63	63	62	36	42	5	6	2	3	2003
POBLACION 6																																							
POBLACION 7	125	112	304	283	949	917	602	565	839	609	965	579	574	536	670	565	549	612	579	550	466	528	520	533	426	418	389	411	329	342	259	304	120	98	56	40	0	0	16723
POBLACION 8	82	192	214	246	896	652	452	325	778	850	1,299	1548	543	254	587	402	209	186	188	172	68	45	42	51	28	32	55	31	138	164	140	118	112	79	60	48	52	38	11376
POBLACION 9	86	80	83	83	92	91	90	92	111	116	294	281	220	235	382	386	381	369	390	382	399	456	293	411	284	281	260	277	31	22	38	35	35	79	10	14	5	3	7177
TAMONTAKA MOTHER	200	209	510	521	555	570	713	709	736	751	711	721	613	544	613	600	712	707	601	633	476	451	498	480	312	271	163	119	62	124	45	90	23	45	1	2	0	0	15091
TAMONTAKA 1	20	17	45	28	118	125	141	129	314	274	263	248	174	214	295	328	197	198	183	201	153	157	130	144	130	108	103	92	76	81	37	56	19	28	6	13	0	3	4848
TAMONTAKA 2																																							
TAMONTAKA 3	8	13	40	34	71	72	36	40	115	113	88	94	51	63	92	105	235	276	230	298	288	359	308	296	334	321	239	257	16	30	5	14	14	21	2	11	0	6	4595
TAMONTAKA 4	13	16	78	66	140	160	156	179	173	181	268	318	212	242	284	259	154	153	138	162	147	122	108	110	94	104	51	41	33	34	22	19	28	28	20	15	4	4	4336
TAMONTAKA 5	8	11	35	47	81	78	34	46	157	172	174	159	114	136	110	147	133	154	164	149	159	139	143	120	102	105	104	92	93	101	42	47	26	39	17	19	1	1	3459
KALANGALAN MOTHER	387	315	442	477	436	583	439	480	591	613	1218	1606	470	480	476	486	406	386	285	289	458	501	472	456	462	478	485	502	379	396	326	380	195	171	148	153	16	17	16860
KALANGALAN 1	91	120	87	123	143	155	82	85	212	220	240	252	217	225	220	227	215	223	180	192	193	206	217	235	192	200	195	215	93	130	130	135	80	92	72	74	62	70	6100
KALANGALAN 2	140	136	196	245	159	200	129	195	445	420	490	256	348	338	147	288	127	224	147	156	169	190	198	124	142	108	94	87	242	167	92	84	152	84	30	29	0	0	6778
TOTAL	***	3805	5565	5257	10124	10006	9125	9075	13469	13171	17325	17048	***	***	12815	***	***	11562	10205	10257	9730	***	9692	9775	8646	8342	7157	7206	4768	4501	3804	3787	2941	3031	1652	1634	342	340	309276

SOURCE: OCSWDS Population Census 2023

ANNEX 3: DEMOGRAPHIC PROFILE BY PREGNANT AND TEENAGE MOTHERS

PREGNANT							TOTAL	TEENAGE MOTHER		TOTAL
13-18	19-22	23-29	30-34	35-39	40-44	45-49		13-18	19-22	
F	F	F	F	F	F	F		F	F	
0	25	48	37	35	25	15	185	28	10	38
1	2	0	3	3	0	0	9	4	4	8
10	8	4	3	0	0	0	25	3	0	3
5	57	35	38	0	11	3	149	18	0	18
0	13	15	13	9	0	0	50	5	0	5
0	10	31	16	4	1	0	62	0	2	2
25	18	15	12	8	0	0	78	25	0	25
10	18	22	31	8	0	0	89	16	9	25
15	18	14	16	12	6	0	81	6	0	6
0	0	9	3	5	1	0	18	5	1	6
0	0	12	6	1	0	0	19	0	0	0
0	4	14	11	6	0	0	35	1	1	2
0	8	7	8	6	2	0	31	0	8	8
19	70	62	62	13	10	16	252	15	16	31
0	0	22	11	12	3	0	48	4	15	19
10	15	18	33	21	7	0	104	15	10	25
3	6	8	6	0	1	0	24	4	10	14
0	21	13	80	0	0	0	114	4	0	4
8	2	1	0	0	0	0	11	1	10	11
0	0	1	0	1	0	0	2	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	23	31	19	14	3	0	90	18	0	18
6	13	25	7	0	0	0	51	10	13	23
0	3	7	5	4	0	0	19	5	0	5
50	28	0	0	0	0	0	78	100	0	100
0	3	2	2	1	0	0	8	2	15	17
0	19	4	2	3	0	0	28	1	0	1
2	3	5	2	1	0	0	13	6	0	6
0	0	2	1	2	0	0	5	4	0	4
5	20	26	10	15	13	0	89	0	0	0
2	5	4	3	5	0	0	19	4	9	13
23	29	6	6	0	2	0	66	13	18	31
194	441	463	446	189	85	34	1852	317	151	468

SOURCE: OCSWDS Population Census 2023

ANNEX 3: DEMOGRAPHIC PROFILE BY SENIOR CITIZEN

SENIOR CITIZEN										TOTAL
60-64y.o		65-70y.o		71-80y.o		81-90y.o		91 above		
M	F	M	F	M	F	M	F	M	F	
322	220	216	213	140	142	60	52	40	30	1435
64	70	64	75	27	50	23	17	4	12	406
30	47	48	69	41	53	6	17	0	6	317
50	40	20	5	99	40	43	10	7	2	316
76	131	72	78	73	96	65	27	45	41	704
858	97	63	78	47	78	16	44	2	7	1290
202	215	255	94	220	177	130	1200	0	0	2493
150	50	69	65	50	30	0	0	0	0	414
559	235	467	276	376	266	320	200	0	0	2699
82	134	44	76	43	78	13	22	0	0	492
196	208	149	190	155	149	24	44	0	0	1115
77	64	68	60	27	22	8	3	4	1	334
39	56	44	66	31	50	9	9	4	6	314
95	69	143	136	72	76	28	33	2	1	655
40	55	45	50	35	45	0	0	0	0	270
40	90	40	90	40	90	41	156	1	1	589
43	32	26	42	9	39	6	15	0	4	216
16	20	31	36	31	29	21	19	1	30	234
21	27	10	20	16	16	0	0	0	0	110
53	59	39	60	35	53	5	41	0	1	346
68	63	60	61	35	41	4	6	2	3	343
74	114	75	96	32	68	21	30	0	0	510
15	46	24	3	0	0	0	0	0	0	88
31	20	38	35	35	79	10	14	5	3	270
62	124	45	90	23	45	1	2	0	0	392
76	78	37	56	19	28	6	13	0	3	316
14	26	5	11	14	12	2	4	0	4	92
8	7	7	5	13	21	5	10	2	2	80
85	92	32	42	20	36	15	19	0	0	341
373	391	339	340	177	178	146	146	12	8	2110
10	12	36	40	11	6	4	5	2	2	128
10	9	115	120	38	40	10	2	0	0	344
3839	2901	2726	2678	1984	2133	1042	2160	133	167	19763

SOURCE: OCSWDS Population Census 2023

ANNEX 3: DEMOGRAPHIC PROFILE BY PERSON WITH DISABILITY

PWD																															
0-6 mos		7mos- 1y.o		2-4y.o		5-6y.o		7-12y.o		13-18y.o		19-22y.o		23-29y.o		30-34y.o		35-39y.o		40-44y.o		45-49y.o		50-54y.o		55-59y.o		60-64y.o		65-70y.o		71-80y.o		81-90y.o	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
5	4	4	6	7	2	5	3	5	2	4	2	6	4	4	5	5	3	5	4	5	4	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1	*	3	1	1	5	4	1	1	3	2	2	0	3	0	5	2	6	1	0	0	0	0	0	0
0	0	0	1	3	1	1	1	2	1	2	3	5	1		4	7	2	2	7	0	7	*	10	9	6	13	9	*	3	6	3	6	4	0	0
0	0	0	0	0	0	0	0	*	5	0	0	12	15	3	0	0	0	5	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	2	0	0	0	4	10	*	2	6	3	4	3	15	3	*	3	0	0	0	3	2	1	5	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1	23	3	7	2	2	3	0	2	1	1	3	1	2	3	2	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	9	6	7	3	4	6	3	2	0	2	0	2	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	4	2	2	2	1	2	2	3	4	7	3	3	3	2	3	2	0	0	2	1	2	6	4	4	3	3	4	9	6	7	44	52	34	46
0	0	0	0	3	2	7	5	5	6	3	4	2	1	2	3	3	2	4	3	5	3	4	5	5	2	2	7	0	0	0	0	0	0	0	0
0	0	0	0	2	0	3	2	12	3	6	3	3	2	7	2	*	4	4	4	3	3	7	*	13	18	10	3	0	0	0	0	0	0	0	0
0	0	0	0	0	0	4	2	4	2	1	2	2	2	5	2	5	0	1	1	2	5	2	3	2	1	4	5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	6	3	3	0	2	0	3	2	0	0	1	3	2	1	3	3	2	1	1	0	4	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	2	3	2	4	7	7	5	5	4	6		0	0	0	0	0	0	0	0	0
0	0	0	0	1	1	7	3	16	4	10	*	9	6	7	3	2	6	7	6	2	6	3	4	4	3	5	6	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	3	2	1	3	4	1	5	2	4	1	3	5	7	4	1	2	3	4	3	4	0	0	0	0	0	0	0	0
0	0	0	0	0	0	2	1	2	2	2	2	5	5	5	5	5	5	5	5	10	*	15	10	10	5	10	*	15	15	0	0	0	0	0	0
0	0	0	0	4	5	0	2	2	3	4	1	0	1	4	1	1	2	0	0	0	0	0	0	1	0	0	0	0	0	3	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	2	5	3	3	0	0	*	5	0	0	1	2	2	2	4	72	3	2	2	0	3	1	2	0	0	0
0	0	0	0	0	0	0	0	3	2	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	14	0	3	0	0	0	7	4	5	0	2	0	2	5	3	3	2	3	2	5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	4	0	0	1	3	0	2	3	3	1	1	1	2	2		2	3	2	4	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	13	4	0	2	*	0	0	0	0	0	0	0	0	0	0	0	0	0	10	15	*	70	70	150	105	90
0	0	0	0	1	0	0	0	11	3	5	0	0	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	1	2	2	3	1	0	4	6	5	4	5	4	2	5	2	0	0	0	2	0	4	0	0	0	1	1	0	0	0	0	0	0
0	0	0	0	0	0	1	2	12	9	5	7	9	5	2	3	7	3	*	2	1	2	5	1	1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	3	2	0	2	4	*	1	0	6	1	4	4	2	5	3	2	2	2	1	2	4	3	1	1	0	0	0	0	0	0	0	0
0	0	0	0	1	2	0	1	0	1	1	2	0	0	1	1	0	0	2	1	2	0	2	0	1	2	1	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	1	1	2	1	1	0	1	0	0	3	1	1	2	4	2	1	0	1	1	0	1	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	2	4	0	0	5	3	10	11	0	0	2	2	0	0	0	0	3	2	6	5	4	2	6	5	7	2
0	0	0	0	1	3	0	0	0	0	0	0	0	0	2	2	6	4	*	5	6	1	9	4	2	4	4	4	1	3	2	2	2	2	0	0
0	0	0	0	0	0	4	6	5	6	7	4	1	1	4	2	4	3	4	3	0	0	2	2	1	3	2	2	5	7	10	*	20	15	0	0
5	4	9	10	32	22	39	37	131	74	113	80	95	92	109	82	116	79	84	69	86	69	80	77	89	146	87	65	53	58	47	96	150	228	146	138

SOURCE: OCSWDS Population Census 2023

ANNEX 3: DEMOGRAPHIC PROFILE BY INDIGENOUS PEOPLE

IP's																																						TOTAL
0-6 mos		7mos- 1y.o		2-4y.o		5-6y.o		7-12y.o		13-18y.o		19-22y.o		23-29y.o		30-34y.o		35-39y.o		40-44y.o		45-49y.o		50-54y.o		55-59y.o		60-64y.o		65-70y.o		71-80y.o		81-90y.o		91 above		
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
8	7	8	7	16	13	26	25	29	25	26	30	39	38	37	35	28	26	28	26	25	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	526
2	0	6	3	7	7	7	4	24	35	17	24	28	16	28	33	27	26	20	20	16	24	9	11	6	7	6	7	5	12	3	3	4	7	1	0	0	1	456
2	3	0	0	2	2	14	21	28	9	24	26	28	14	25	21	28	31	19	15	14	13	10	9	6	13	9	8	3	6	3	6	4	0	0	0	0	0	416
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	5	15	15	15	20	15	20	13	15	15	20	13	15	15	29	10	20	10	10	10	15	54	10	25	5	15	0	0	0	0	0	0	0	0	0	0	429
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	7	5	2	4	2	3	3	4	4	2	3	2	4	16	2	1	3	2	1	1	5	3	0	0	0	0	0	0	85
45	60	30	47	60	55	85	76	120	118	93	78	87	70	70	58	68	50	108	190	227	128	158	109	78	94	89	97	0	0	0	0	0	0	0	0	0	0	2548
4	5	3	4	7	5	9	11	28	18	42	36	36	43	24	25	27	25	19	18	14	13	17	16	11	15	17	9	11	15	5	2	3	3	5	2	0	0	547
0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	2	1	0	0	0	3	2	1	0	1	2	4	3	0	0	0	0	0	0	0	0	0	26
0	0	0	0	0	3	1	0	6	0	3	2	2	2	1	1	0	8	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	1	1	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	5		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
2	2	1	3	4	2	1	0	0	0	3	4	2	4	3	0	2	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0	0		0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	7
0	0	0	0	0	0	0		0	0		0	1	0	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
0	0	0	0	0	0	0	0	0	0	0	0	4	5	2	3	3	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
72	79	53	79	111	102	163	152	255	218	230	220	249	212	213	198	227	192	228	289	319	228	215	216	113	156	131	142	23	34	16	14	11	10	7	3	0	1	5181

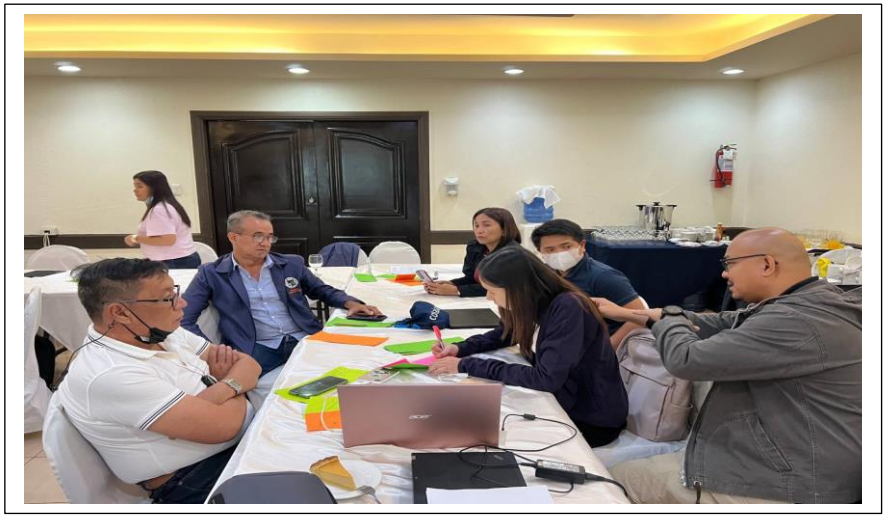
SOURCE: OCSWDS Population Census 2023

ANNEX 3: DEMOGRAPHIC PROFILE BY INFORMAL SETTLER FAMILIES

																		ISF																		TOTAL
0-6 mos		7mos- 1y.o		2-4y.o		5-6y.o		7-12y.o		13-18y.o		19-22y.o		23-29y.o		30-34y.o		35-39y.o		40-44y.o		45-49y.o		50-54y.o		55-59y.o		60-64y.o		65-70y.o		71-80y.o		81-90y.o		91 above		
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
0	0	0	0	0	0	0	0	0	0	0	0	48	35	45	30	30	25	12	10	12	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255
0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	3	4	6	0	0	8	10	147	10	11	12	10	10	7	7	5	11	4	4	2	2	0	0	284
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	12	8	6	8	5	8	4	3	2	2	6	6	0	0	0	0	0	0	0	0	75
0	0	0	0	0	0	0	0	0	0	0	0	10	10	80	30	180	35	137	30	150	50	140	55	60	65	90	40	0	0	0	0	0	0	0	0	0	0	1162
0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	15	50	15	43	7	45	23	42	24	37	36	36	14	31	15	0	0	0	0	0	0	0	0	470
0	0	0	0	0	0	0	0	0	0	0	0	8	1	20	4	35	1	30	2	19	1	18	6	23	4	12	5	5	2	8	2	2	2	1	1	0	0	212
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	20			274	160	198	140	192	51	100	25	0	0	0	0	0	0	0	0	0	0	1190
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	97	86	112	87	120	76	38	26	15	11	10	27	11	20	18	16	15	12	0	0	797
0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	22	9	35	15	32	20	41	15	19	12	9	11	2	1	2	1	0	0	0	0	0	0	280
	0	0	0	0	0	0	0	0	0	0	0	2	4	5	3	13	4	9	6	12	13	15	12	14	5	9	7	8	12	8	9	0	0	0	0	0	0	170
0	0	0	0	0	0	0	0	3	2		0	5	4	10	12	8	6	4	4	5	3	2	2	3	2	1	1	2	0	0	0	0	0	0	0	0	0	79
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	15	5	46	8	15	10	30	10	17	8	42	3	10	2	0	0	0	0	0	0	238
0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	11	14	3	21	4	20	8	14	10	6	10	2	0	7	2	0	0	0	0	0	0	0	0	145
0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	5	2	10	15	20	15	13	8	10	10	0	0	0	0	0	0	0	0	0	0	0	0	108
0	0	0	0	0	0	0	0	0	0	0	0	10	15	20	25	25	25	120	150	150	145	110	115	90	120	105	205	15	15	10	10	5	5	5	5	2	2	1504
0	0	0	0	0	0	0	0	0	0	15	25	13	20	30	46	48	40	65	46	101	89	125	61	150	48	48	40	27	26	4	3	16	16	0	0	0	0	1102
0	0	0	0	0	0	0	0	0	0	1	0	2	0	15	5	20	11	20	10	30	11	26	10	19	12	24	5	11	4	3	4	1	0	1	0	0	0	245
0	0	0	0	5	4	6	10	9	11	12	24	12	9	30	27	26	12	0	0	32	14	12	10	3	2	3	2	0	0	0	0	0	0	0	0	0	0	275
0	0	0	0	0	0	0	0	0	0	0	0	9	3	16	4	21	10	24	8	53	19	29	11	18	12	16	9	9	6	11	3	10	2	0	1	0	0	304
1	3	3	6	3	6	7	2	12	12	8	12	7	5	17	21	6	6	2	8	8	5	8	5	5	2	4	4	2	2	0	2	1	0	1	0	0	0	196
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	99	0	0	100	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	278
5	4	5	6	15	8	10	6	31	25	35	47	29	23	43	57	31	26	29	25	18	13	18	1323	14	12	11	0	0	0	0	0	0	0	0	0	0	0	1869
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	8	5	2	11	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	36	0	14	3	12	6	0	6	0	1	0	3	0	0	0	0	0	0	0	106
0	0	0	0	0	0	0	0	0	0	0	0	1	0	13	1	7	0	9	1	6	0	3	0	6	0	1	1	2	0	0	1	0	0	0	1	0	0	53
0	0		0	0	0	0	0	0	0	0	2	25	8	33	20	50	25	54	15	18	8	37	2	40	7	32	4	15	4	14	5	15	5	12	0	1	0	451
0	0	0	0	0	0	0	0	0	0	0	0	18	5	36	10	43	14	48	21	39	19	42	7	50	11	13	5	8	4	7	3	5	2	2	0	1	1	414
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
6	7	8	12	23	18	23	18	55	50	71	110	199	142	508	324	747	430	801	514	1327	800	1183	1932	848	472	566	409	210	136	96	76	77	52	39	22	4	3	12318

SOURCE: OCSWDS Population Census 2023

ANNEX 4: PLANNING WORKSHOP PHOTOS




MOVE UP


CDRRMO
HRMD
25